GP Big Island, LLC
9363 Lee Jackson Highway
P.O. Box 40
Big Island, VA 24526
(434) 299-5911

Georgia-Pacific

December 22, 2009

Ms. Becky France
Environmental Engineer Senior
Virginia Department of Environmental Quality
Blue Ridge Regional Office
3019 Peters Creek Road
Roanoke, VA 24019

Subject: VPDES Permit Renewal Application
VPDES Permit No. VA0003026
GP Big Island, LLC

Dear Ms. France:

As required by the current VPDES permit that expires on June 29, 2010, we are submitting the attached renewal application. As part of this renewal package, we are including additional information, or making certain requests as outlined below:

- We are requesting monitoring frequency reductions for Outfall 003 for 5-day Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS). Based on our monitoring data over the last term of the permit, we have had no exceedances of the permit limits for either parameter. The monitoring frequency of the current permit is 5 days per week for both parameters. Our average over the last 2 years for BOD_5 is 18 percent of the monthly average limit and our average for TSS over the same period is 7 percent of the monthly average limit. We request the frequency be revised to 3 days per week for both BOD_5 and TSS as allowed under EPA's *Interim Guidance for Performance-Based Reductions of NPDES Monitoring Frequencies*.

- We are requesting monitoring frequency reductions for Outfalls 001, 002 and 003 for color, which is now monitored 5 days per week. Based on our monitoring data over the last 2-year period for the calculated color change reported under Outfall 999, we have had no exceedances of the permit limit for this parameter, and our average is 20 percent of the monthly average permit limit. We request the frequency be revised to one day per week as allowed under EPA's *Interim Guidance for Performance-Based Reductions of NPDES Monitoring Frequencies*.

- We request the removal of monitoring requirements for Outfalls 001 and 002 for Total Residual Chlorine, as there is no chlorine addition to the cooling water that is discharged from these outfalls. Based on our monitoring data over the last term of the permit, we have had no exceedances of the permit limits for this parameter. In fact, all of the data monitored over the permit term have been less than the detection limit for the method.

- We request the removal of the language in the current permit in the *Schedule of Compliance* (Part I.C.) that specifies the requirements related to the implementation of

In addition to the Form 2A waiver requests, the Authority is requesting the following waiver for preparation of the VPDES Sewage Sludge Permit Application Form:

1. Part C.1.c of the VPDES Permit Sewage Sludge Application form requires that maps depicting the land application sites be provided in the application. The maps for the current land application sites were provided to DEQ previously by Bionomics in the form of Map Books for application sites in Franklin and Bedford Counties. Rather than duplicate previously submitted information, the Authority requests that the requirement to provide these maps again be waived and a reference to the maps be accepted for the Sewage Sludge Application.

We will continue preparation of the final VPDES permit reissuance application and will submit the completed, signed application documents to your office in advance of the August 23, 2008 deadline. In the meantime, please do not hesitate to contact me should you have any questions or require any additional information.

Sincerely,

S. Scott Shirley
Director of Wastewater Operations

SSS/

Enclosures

cc: Michael McEvoy, Executive Director-Wastewater Services, Western Virginia Water Authority
Janis Richardson, Environmental Programs Coordinator, Western Virginia Water Authority
Marty Sensabaugh, Wastewater Operation Manager, Western Virginia Water Authority
Ronald E. Benson, Jr., Ph.D., P.E., Senior Vice President/Principal, Hole Montes
R. Lawrence Hoffman, Director of Environmental Services, Olver Incorporated

1540 Underhill Ave. Telephone: (540) 853-1283
Roanoke, VA 24014 Email: scott.shirley@westernVAwater.org Fax: (540) 853-1307

1	Form 1 (including USGS Map) Attachment A to Form 1 (Add. Environ. Permits)
2	Form 2C
3	Attachments A, B, C & D to Form 2C
4	Attachment E to Form 2C
5	Form 2F (incl. Description of Similar Outfalls)
6	Appendix 1 to Form 2F (Site Maps, List of Pollutant Sources and USGS Map)
7	Attachment A to Form 2F (Drainage Area and Control Measures)
8	Attachment B to Form 2F (History of Spills)
9	Appendix 2 to Form 2F (BMP Information)
10	VPDES Sewage Sludge Permit Application
11	Sludge Disposal Plan (including Lynchburg Agreement)
12	Delegation of Signatory Authority
13	MSDS for Water Treatment Chemicals
14	Lab Analysis Data for Form 2C
15	Lab Analysis Data for Form 2F

GP Georgia-Pacific

GP Big Island, LLC
9363 Lee Jackson Highway
P.O. Box 40
Big Island, VA 24526
(434) 299-5911

ENTERED

February 2, 2010

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7003 1010 0005 3792 6811

RECEIVED
FEB - 3 2010
DEQ - BRRO

Ms. Becky France
Environmental Engineer Senior
Virginia Department of Environmental Quality
Blue Ridge Regional Office
3019 Peters Creek Road
Roanoke, VA 24019

Re: VPDES Permit No. VA0003026

Dear Ms. France:

Please find enclosed the signed application page from the Sewage Sludge Permit Application Form as requested. Please replace page 4 of the application located in Section 10 of our permit application package with the enclosed page. Thank you for your review and feedback on our permit application. Should you have any questions please contact me at (434) 299-7386 or thpierce@gapac.com.

Sincerely,

Timothy H. Pierce
EH&S Manager
GP Big Island, LLC

Enclosure

CC: Virginia Department of Health
Office of Water Programs
1347 Piney Forest Road
Danville, VA 24540-1605

Please print or type in the unshaded areas only.

Form Approved. OMB No. 2040-0086.

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY
GENERAL INFORMATION
Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F VAD003113602 D

LABEL ITEMS	
I.	EPA I.D. NUMBER
III.	FACILITY NAME
V.	FACILITY MAILING ADDRESS
VI.	FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		X
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: GP Big Island, LLC

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 Pierce, Tim - EHS Manager	(434) 299-7386

V. FACILTY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 P. O. Box 40

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 Big Island	VA	24526

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 9363 Lee Jackson Highway

B. COUNTY NAME: Bedford

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 Big Island	VA	24526	

EPA Form 3510-1 (8-90)

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
2631 *(specify)* Paperboard Mill	*(specify)*
C. THIRD	**D. FOURTH**
(specify)	*(specify)*

VIII. OPERATOR INFORMATION

A. NAME	B. Is the name listed in Item VIII-A also the owner?
GP Big Island, LLC	☑ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box: if "Other," specify.)*	D. PHONE *(area code & no.)*
F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC *(other than federal or state)*; O = OTHER *(specify)* — P *(specify)*	A (434) 299-7386

E. STREET OR P.O. BOX
P. O. Box 40

F. CITY OR TOWN	G. STATE	H. ZIP CODE	IX. INDIAN LAND
Big Island	VA	24526	Is the facility located on Indian lands? ☐ YES ☑ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	D. PSD *(Air Emissions from Proposed Sources)*
9 N VA0003026	9 P
B. UIC *(Underground Injection of Fluids)*	**E. OTHER** *(specify)*
9 U	9 549 *(specify)* Solid Waste
C. RCRA *(Hazardous Wastes)*	**E. OTHER** *(specify)*
9 R VAD003113602	9 198 *(specify)* Solid Waste

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

The GP Big Island, LLC facility produces unbleached, corrugating medium and linerboard for use in the manufacture of corrugated containers (boxes). Raw materials consist of hardwood pulp and pre and post consumer recycled fiber.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

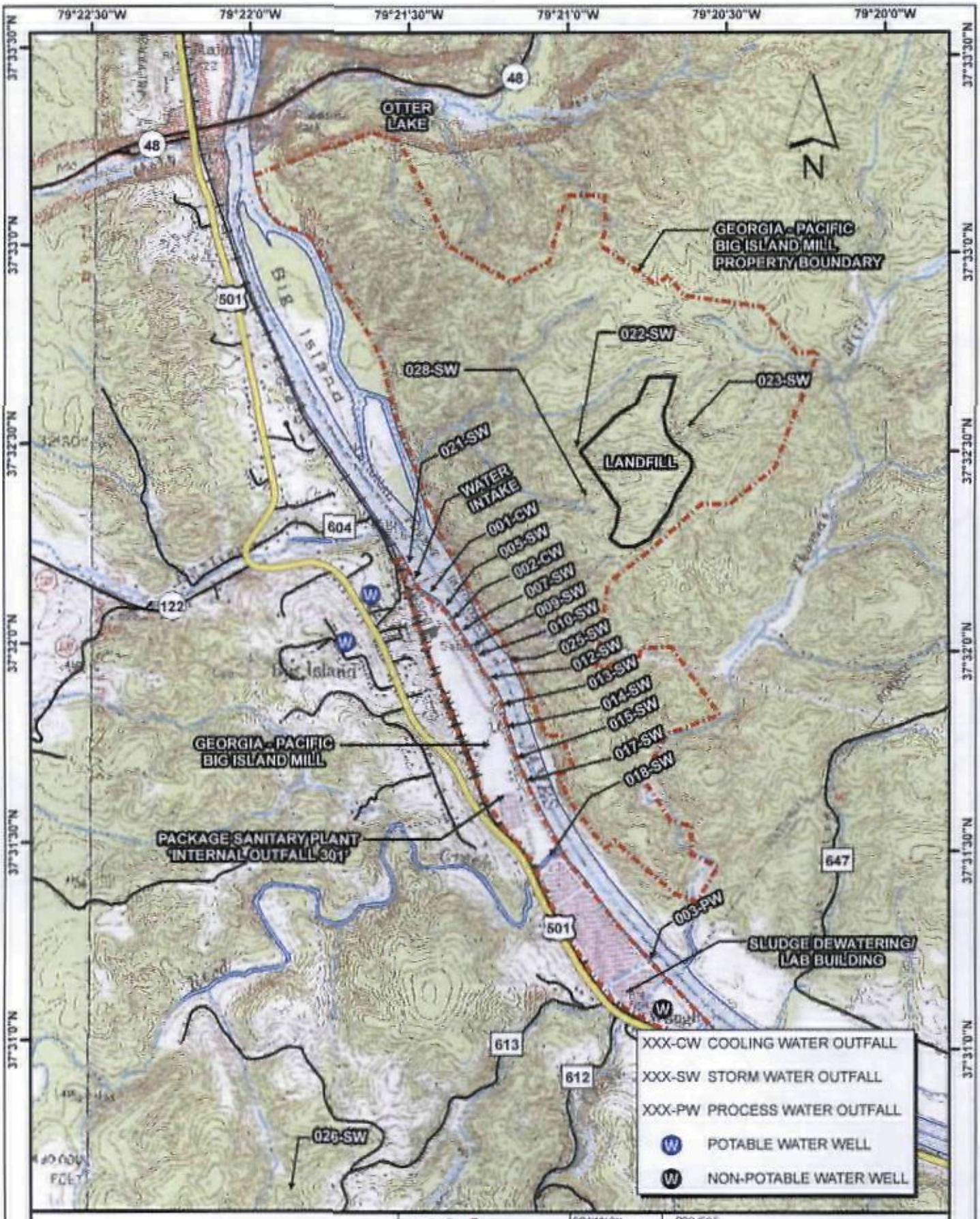
A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
Brent A. Collins VP Manufacturing, GP Big Island, LLC	Brent A. Collins	12/22/09

COMMENTS FOR OFFICIAL USE ONLY

C

Attachment A to Form 1
Additional Environmental Permits
GP Big Island, LLC

Permit Type	Issuing Agency	Permit No.
Potable Water Supply	VA Dept. of Health	5019340
Potable Water Supply	VA Dept. of Health	5019725
Water Intake Forebay Dredging Permit	VA Marine Resources Commission	03-0508
General Nutrient Discharge Permit	VA DEQ	VAN040066
Recovery Furnace Construction/ Operating Permit	VA DEQ	VA-30389
Linermill/OCC Construction/ Operating Permit	VA DEQ	VA-30389
BART Operating Permit	VA DEQ	VA-30389
Title V Air Operating Permit	VA DEQ	VA-30389



IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED

U.S. Geological Survey: 1:24,000, 7.5 Minute Series

2,000 0 2,000 Feet

WW ENGINEERS SURVEYORS PLANNERS ASSOCIATES

DRAWN BY: CLP	PROJECT: *GEORGIA - PACIFIC BIG ISLAND PAPER MILL*		
REVIEWED BY: HFW			
FILE NAME: USGSMap.mxd	TITLE: *GP ~ OUTFALLS*		
PROJECT NUMBER: 209078.00	Scale: 1" = 2,000 FT	Date: 11/17/09	Figure: 3 - 1

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

FORM 2C NPDES

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (*list*)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (*name*)
	1. DEG.	2. MIN.	3. SEC.	1. DEG	2. MIN.	3. SEC.	
001	37	32	08	79	21	27	James River
002	37	32	04	79	21	23	James River
003	37	31	13	79	20	46	James River
301(internal)	37	31	37	79	21	13	EQ Basins in ind. WWTP, then to 003

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (*e.g., for certain mining activities*), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (*list*)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (*list*)	b. AVERAGE FLOW (*include units*)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
001	Non-contact cooling water	0.06 MGD	Screening, clarification and coagulation of raw	1-T	1-U
			river water intake and discharge to surface	2-D	4-A
			water		
002	Non-contact cooling water and raw	2.48 MGD	Screening, clarification and coagulation of raw	1-T	1-U
	river water overflow		river water intake and discharge to surface	2-D	4-A
			water		
301	Treated sanitary wastewater from	0.004 MGD	Treatment units: comminutor, aeration basin,	1-L	1-O
	package wastewater treatment plant.		secondary clarifier, aerobic digester, chlorine	1-U	2-F
	Handles sanitary waste from mill and		disinfection, surge tank, discharge to	3-A	5-A
	limited structures in community.		equalization basins in industrial WWTP.		

OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

FORM **2C** NPDES

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (*list*)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (*name*)
	1. DEG	2. MIN	3. SEC.	1. DEG.	2. MIN.	3. SEC.	

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (*e.g., for certain mining activities*), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (*list*)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (*list*)	b. AVERAGE FLOW (*include units*)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
003	Treated process wastewater from	7.84 MGD	Screening, clarification and coagulation of raw	1-H	1-O
	sodium based, non-sulfur, semi-		river water. Wastewater treatment units:	1-T	1-U
	chemical pulp, non-deink recycled		screening, flotation, sedimentation, mixing,	2-B	2-D
	pulp & paperboard manufacturing		equalization, addition of nitrate or oxygen,	3-A	3-E
	including: pulping chemicals and		activated sludge,polymer addition,stabilization	3-C	4-A
	additives; wood extracts; paper mill		pond, discharge to surface water using	5-C	5-E
	whitewater, additives & spent		subsurface diffuser. Sludge treatment units:	5-G	5-L
	cleaners; water treatment and boiler		gravity thickening, chemical conditioning, belt	5-O	5-Q
	blowdowns; cooling and pump seal		filtration, industrial boiler, landfill, sludge	5-T	
	water; stormwater from woodyard,		lagoons and shipment offsite for composting.		
	boiler ash collection area,				
	fuel (coal,woodwaste,OCC rejects,				
	tire-derived fuel and fuel oil) and				
	chemical storage areas and other				
	process areas; process spills and				
	maintenance activities; wastewater				
	polymers and additives; discharge				
	from sludge dewatering operation;				
	leachate from two industrial				
	landfills; boilout chemicals.				
	Treated sanitary wastewater.				
	Other operations as described in				
	Attachment D.				

OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☐ YES (*complete the following table*) ☑ NO (*go to Section III*)

1. OUTFALL NUMBER (*list*)	2. OPERATION(s) CONTRIBUTING FLOW (*list*)	3. FREQUENCY a. DAYS PER WEEK (*specify average*)	3. FREQUENCY b. MONTHS PER YEAR (*specify average*)	4. FLOW a. FLOW RATE (*in mgd*) 1. LONG TERM AVERAGE	4. FLOW a. FLOW RATE (*in mgd*) 2. MAXIMUM DAILY	4. FLOW B. TOTAL VOLUME (*specify with units*) 1. LONG TERM AVERAGE	4. FLOW B. TOTAL VOLUME (*specify with units*) 2. MAXIMUM DAILY	C. DURATION (*in days*)
N/A								

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☑ YES (*complete Item III-B*) ☐ NO (*go to Section IV*)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (*or other measure of operation*)?

☑ YES (*complete Item III-C*) ☐ NO (*go to Section IV*)

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (*specify*)	2. AFFECTED OUTFALLS (*list outfall numbers*)
898	Air Dry Tons per Day	Paperboard (corrugating medium) from sodium based (non-sulfur) semi-chemical pulp and wastepaper (secondary fiber, non-deink). Paper machine production divided by the number of operating days for contiguous 12 month period. 40 CFR 430, Subpart F	003
813	Air Dry Tons per Day	Paperboard (corrugating medium and linerboard) from 100% waste paper (secondary fiber, non-deink). Paper machine production divided by the number of operating days for contiguous 12 month period. 40 CFR 430, Subpart J	003

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operations of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ YES (*complete the following table*) ☑ NO (*go to Item IV-B*)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS a. NO.	2. AFFECTED OUTFALLS b. SOURCE OF DISCHARGE	3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE a. REQUIRED	4. FINAL COMPLIANCE DATE b. PROJECTED

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (*or other environmental projects which may affect your discharges*) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.

☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
VAD003113602

CONTINUED FROM PAGE 2

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided. NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
acetaldehyde	Inadvertantly manufactured and discharged as a result of the paper making process. Based on factors supplied by the National Council for Air and Stream Improvement (NCASI) for Toxic Release Inventory reporting.		
See Attachment B for substances listed in Table 2C-4 as described in instructions for Form 2C, Part V.D.			

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☑ YES (*list all such pollutants below*) ☐ NO (*go to Item VI-B*)

Trace metals may be present from raw materials and wood including but not limited to:

Antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc.

The process operations and the corresponding raw materials are described in the attached "Process Operations Contributing Wastewater - GP Big Island, LLC". All materials are expected to be amenable to treatment in the existing wastewater treatment system consisting of primary clarification, biological treatment and sludge dewatering, and should not cause any exceedances of permit limitations.

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VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☑ YES (*identify the test(s) and describe their purposes below*) ☐ NO (*go to Section VIII*)

Biological monitoring for acute and chronic toxicity has been conducted in accordance with Part I, Sections E and F, Toxics Monitoring Program, of the existing VPDES permit number VA0003026. A summary of the monitoring data is included in Attachment E for reference.

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☑ YES (*list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below*) ☐ NO (*go to Section IX*)

A. NAME	B. ADDRESS	C. TELEPHONE (*area code & no.*)	D. POLLUTANTS ANALYZED (*list*)
Air, Water & Soil Laboratories, Inc.	2109A North Hamilton Street Richmond, VA 23230	(804) 358-8295	nutrients, metals
REI Consultants, Inc.	225 Industrial Park Drive Beaver, WV 25813	(304) 255-2500	fecal coliform
Analytical Perspectives, LLC	2714 Exchange Dr. Wilmington, NC 28405	(910) 794-1613	dioxin
TestAmerica Mobile	900 Lakeside Drive Mobile, AL 36693	(251) 666-6633	pollutants listed in V.B and V.C other than above

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (*type or print*)	B. PHONE NO. (*area code & no.*)
Brent A. Collins, VP Manufacturing GP Big Island, LLC	(434) 299-5911
C. SIGNATURE	D. DATE SIGNED
Brent A. Collins	12/22/09

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (*use the same format*) instead of completing these pages.
SEE INSTRUCTIONS.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
VAD003113602

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO.
001

PART A –You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO. OF ANALYSES	3. UNITS (*specify if blank*) a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (*BOD*)	<5	<4.14	<5	<2.29	<5	<1.18	52	mg/l	kg/d			
b. Chemical Oxygen Demand (*COD*)	16 J	3.63					1	mg/l	kg/d			
c. Total Organic Carbon (*TOC*)	4.1	0.93					1	mg/l	kg/d			
d. Total Suspended Solids (*TSS*)	<2	<0.45					1	mg/l	kg/d			
e. Ammonia (*as N*)	<0.05	<0.011					1	mg/l	kg/d			
f. Flow	VALUE 0.22		VALUE 0.12		VALUE 0.06		304	MGD	MGD	VALUE		
g. Temperature (*winter*)	VALUE 25.6		VALUE 18.9		VALUE 16.6		107	°C		VALUE		
h. Temperature (*summer*)	VALUE 34.2		VALUE 26.1		VALUE 24.1		154	°C		VALUE		
i. pH	MINIMUM 6.86	MAXIMUM 8.69	MINIMUM 7.21	MAXIMUM 8.40			261	STANDARD UNITS				

PART B – Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (*if available*)	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)	X		2.1	0.477					1	mg/l	kg/d			
b. Chlorine, Total Residual		X	<0.0051	<0.001					365	mg/l	kg/d			
c. Color	X		68	---	18	---	14	---	262	PCU	---			
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		0.075 J	0.017					1	mg/l	kg/d			
f. Nitrate-Nitrite (*as N*)	X		<0.05	<0.011					1	mg/l	kg/d			

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (*if available*)	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)	X		<0.5	<0.114					1	mg/l	kg/d			
h. Oil and Grease		X	<5.3	<1.204					1	mg/l	kg/d			
i. Phosphorus (as P), Total (7723-14-0)	X		0.11	0.025					1	mg/l	kg/d			
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (*as SO_4*) (14808-79-8)	X		86	19.53					1	mg/l	kg/d			
l. Sulfide (*as S*)		X												
m. Sulfite (*as SO_3*) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)	X		58	0.013					1	ug/l	kg/d			
p. Barium, Total (7440-39-3)	X		62	0.014					1	ug/l	kg/d			
q. Boron, Total (7440-42-8)	X		21	0.005					1	ug/l	kg/d			
r. Cobalt, Total (7440-48-4)	X		0.67 J	0.0002					1	ug/l	kg/d			
s. Iron, Total (7439-89-6)	X		120 J	0.027					1	ug/l	kg/d			
t. Magnesium, Total (7439-95-4)	X		8100	1.84					1	ug/l	kg/d			
u. Molybdenum, Total (7439-98-7)	X		1.2 J	0.0003					1	ug/l	kg/d			
v. Manganese, Total (7439-96-5)	X		19	0.004					1	ug/l	kg/d			
w. Tin, Total (7440-31-5)		X	<2.5	<0.0006					1	ug/l	kg/d			
x. Titanium, Total (7440-32-6)	X		1.4 J	0.0003					1	ug/l	kg/d			

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
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CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)		X		0.22 J	0.0					1	ug/l	kg/d			
2M. Arsenic, Total (7440-38-2)			X												
3M. Beryllium, Total (7440-41-7)			X												
4M. Cadmium, Total (7440-43-9)		X		0.32 J	0.0001					1	ug/l	kg/d			
5M. Chromium, Total (7440-47-3)		X		<2.5	0.0006					1	ug/l	kg/d			
6M. Copper, Total (7440-50-8)		X		<2.5	0.0006					1	ug/l	kg/d			
7M. Lead, Total (7439-92-1)		X		0.17 J	0.0					1	ug/l	kg/d			
8M. Mercury, Total (7439-97-6)			X	<0.0002	0.0					1	mg/l	kg/d			
9M. Nickel, Total (7440-02-0)		X		1.2 J	0.0003					1	ug/l	kg/d			
10M. Selenium, Total (7782-49-2)			X	<1.2	0.0					1	ug/l	kg/d			
11M. Silver, Total (7440-22-4)			X	<0.5	0.0					1	ug/l	kg/d			
12M. Thallium, Total (7440-28-0)			X												
13M. Zinc, Total (7440-66-6)		X		<20	<0.005					1	ug/l	kg/d			
14M. Cyanide, Total (57-12-5)			X												
15M. Phenols, Total			X												
DIOXIN															
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)			X												
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X												
4V. Bis (*Chloromethyl*) Ether (542-88-1)			X	delisted											
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chlorobenzene (108-90-7)			X												
8V. Chlorodibromomethane (124-48-1)			X												
9V. Chloroethane (75-00-3)			X												
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)			X												
12V. Dichlorobromomethane (75-27-4)			X												
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)			X												
15V. 1,2-Dichloroethane (107-06-2)			X												
16V. 1,1-Dichloroethylene (75-35-4)			X												
17V. 1,2-Dichloropropane (78-87-5)			X												
18V. 1,3-Dichloropropylene (542-75-6)			X												
19V. Ethylbenzene (100-41-4)			X												
20V. Methyl Bromide (74-83-9)			X												
21V. Methyl Chloride (74-87-3)			X												

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS (*continued*)															
22V. Methylene Chloride (75-09-2)			X												
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X												
24V. Tetrachloroethylene (127-18-4)			X												
25V. Toluene (108-88-3)			X												
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X												
27V. 1,1,1-Trichloroethane (71-55-6)			X												
28V. 1,1,2-Trichloroethane (79-00-5)			X												
29V Trichloroethylene (79-01-6)			X												
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)			X												
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X												
2A. 2,4-Dichlorophenol (120-83-2)			X												
3A. 2,4-Dimethylphenol (105-67-9)			X												
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X												
5A. 2,4-Dinitrophenol (51-28-5)			X												
6A. 2-Nitrophenol (88-75-5)			X												
7A. 4-Nitrophenol (100-02-7)			X												
8A. P-Chloro-M-Cresol (59-50-7)			X												
9A. Pentachlorophenol (87-86-5)			X												
10A. Phenol (108-95-2)			X												
11A. 2,4,6-Trichlorophenol (88-05-2)			X												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X												
2B. Acenaphtylene (208-96-8)			X												
3B. Anthracene (120-12-7)			X												
4B. Benzidine (92-87-5)			X												
5B. Benzo (*a*) Anthracene (56-55-3)			X												
6B. Benzo (*a*) Pyrene (50-32-8)			X												
7B. 3,4-Benzo-fluoranthene (205-99-2)			X												
8B. Benzo (*ghi*) Perylene (191-24-2)			X												
9B. Benzo (*k*) Fluoranthene (207-08-9)			X												
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)			X												
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)			X												
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)			X												
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)			X												
14B. 4-Bromophenyl Phenyl Ether (101-55-3)			X												
15B. Butyl Benzyl Phthalate (85-68-7)			X												
16B. 2-Chloro-naphthalene (91-58-7)			X												
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X												
18B. Chrysene (218-01-9)			X												
19B. Dibenzo (*a,h*) Anthracene (53-70-3)			X												
20B. 1,2-Dichloro-benzene (95-50-1)			X												
21B. 1,3-Di-chloro-benzene (541-73-1)			X												

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*)															
22B. 1,4-Dichlorobenzene (106-46-7)			X												
23B. 3,3-Dichlorobenzidine (91-94-1)			X												
24B. Diethyl Phthalate (84-66-2)			X												
25B. Dimethyl Phthalate (131-11-3)			X												
26B. Di-N-Butyl Phthalate (84-74-2)			X												
27B. 2,4-Dinitrotoluene (121-14-2)			X												
28B. 2,6-Dinitrotoluene (606-20-2)			X												
29B. Di-N-Octyl Phthalate (117-84-0)			X												
30B. 1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7)			X												
31B. Fluoranthene (206-44-0)			X												
32B. Fluorene (86-73-7)			X												
33B. Hexachlorobenzene (118-74-1)			X												
34B. Hexachlorobutadiene (87-68-3)			X												
35B. Hexachlorocyclopentadiene (77-47-4)			X												
36B Hexachloroethane (67-72-1)			X												
37B. Indeno (1,2,3-*cd*) Pyrene (193-39-5)			X												
38B. Isophorone (78-59-1)			X												
39B. Naphthalene (91-20-3)			X												
40B. Nitrobenzene (98-95-3)			X												
41B. N-Nitrosodimethylamine (62-75-9)			X												
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*)															
43B. N-Nitrosodiphenylamine (86-30-6)			X												
44B. Phenanthrene (85-01-8)			X												
45B. Pyrene (129-00-0)			X												
46B. 1,2,4-Trichlorobenzene (120-82-1)			X												
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Enosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
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1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICIDES (*continued*)															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (*use the same format*) instead of completing these pages.
SEE INSTRUCTIONS.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
VAD003113602

V. INTAKE AND EFFLUENT CHARACTERISTICS (*continued from page 3 of Form 2-C*)

OUTFALL NO. 002

PART A –You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO. OF ANALYSES	3. UNITS (*specify if blank*) a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (*BOD*)	5	<118	<5	<69	<5	<47	52	mg/l	kg/d			
b. Chemical Oxygen Demand (*COD*)	16 J	150.2					1	mg/l	kg/d			
c. Total Organic Carbon (*TOC*)	3.8	35.67					1	mg/l	kg/d			
d. Total Suspended Solids (*TSS*)	<2.0	<18.77					1	mg/l	kg/d			
e. Ammonia (*as N*)	<0.05	<0.469					1	mg/l	kg/d			
f. Flow	VALUE 6.23		VALUE 3.65		VALUE 2.48		313	MGD	MGD	VALUE		
g. Temperature (*winter*)	VALUE 24.7		VALUE 18.4		VALUE 15.1		107	°C		VALUE		
h. Temperature (*summer*)	VALUE 32.1		VALUE 28.6		VALUE 24.8		154	°C		VALUE		
i. pH	MINIMUM 6.91	MAXIMUM 8.73	MINIMUM 7.34	MAXIMUM 8.34			261	STANDARD UNITS				

PART B – Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (*if available*)	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE b. NO. OF ANALYSES
a. Bromide (24959-67-9)	X		2.4	22.53					1	mg/l	kg/d			
b. Chlorine, Total Residual		X	<0.0051	<0.048					365	mg/l	kg/d			
c. Color	X		40	---	18	---	15	---	262	PCU	---			
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		0.068 J	0.638					1	mg/l	kg/d			
f. Nitrate-Nitrite (*as N*)	X		<0.05	<0.469					1	mg/l	kg/d			

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (*if available*)	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)	X		<0.5	<4.693					1	mg/l	kg/d			
h. Oil and Grease		X	<5.3	<49.75					1	mg/l	kg/d			
i. Phosphorus (as P), Total (7723-14-0)	X		0.15	1.408					1	mg/l	kg/d			
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (*as SO_4*) (14808-79-8)	X		72	675.85					1	mg/l	kg/d			
l. Sulfide (*as S*)		X												
m. Sulfite (*as SO_3*) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)	X		53	0.498					1	ug/l	kg/d			
p. Barium, Total (7440-39-3)	X		63	0.591					1	ug/l	kg/d			
q. Boron, Total (7440-42-8)	X		24	0.225					1	ug/l	kg/d			
r. Cobalt, Total (7440-48-4)	X		0.53 J	0.005					1	ug/l	kg/d			
s. Iron, Total (7439-89-6)	X		88 J	0.826					1	ug/l	kg/d			
t. Magnesium, Total (7439-95-4)	X		7900	74.16					1	ug/l	kg/d			
u. Molybdenum, Total (7439-98-7)	X		1.0 J	0.009					1	ug/l	kg/d			
v. Manganese, Total (7439-96-5)	X		15	0.141					1	ug/l	kg/d			
w. Tin, Total (7440-31-5)		X	<2.5	<0.023					1	ug/l	kg/d			
x. Titanium, Total (7440-32-6)	X		0.9 J	0.008					1	ug/l	kg/d			

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
VAD003113602	002

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)		X		0.082 J	0.001					1	ug/l	kg/d			
2M. Arsenic, Total (7440-38-2)			X												
3M. Beryllium, Total (7440-41-7)			X												
4M. Cadmium, Total (7440-43-9)		X		0.32 J	0.003					1	ug/l	kg/d			
5M. Chromium, Total (7440-47-3)		X		<2.5	<0.023					1	ug/l	kg/d			
6M. Copper, Total (7440-50-8)		X		<2.5	<0.023					1	ug/l	kg/d			
7M. Lead, Total (7439-92-1)		X		0.14 J	0.001					1	ug/l	kg/d			
8M. Mercury, Total (7439-97-6)			X	<0.0002	<0.002					1	mg/l	kg/d			
9M. Nickel, Total (7440-02-0)		X		<2.5	<0.023					1	ug/l	kg/d			
10M. Selenium, Total (7782-49-2)			X	<1.2	<0.011					1	ug/l	kg/d			
11M. Silver, Total (7440-22-4)			X	<0.5	<0.005					1	ug/l	kg/d			
12M. Thallium, Total (7440-28-0)			X												
13M. Zinc, Total (7440-66-6)		X		<5.0	<0.047					1	ug/l	kg/d			
14M. Cyanide, Total (57-12-5)			X												
15M. Phenols, Total			X												
DIOXIN															
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X												
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X												
4V. Bis (*Chloromethyl*) Ether (542-88-1)			X	delisted											
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chlorobenzene (108-90-7)			X												
8V. Chlorodibromomethane (124-48-1)			X												
9V. Chloroethane (75-00-3)			X												
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)			X												
12V. Dichlorobromomethane (75-27-4)			X												
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)			X												
15V. 1,2-Dichloroethane (107-06-2)			X												
16V. 1,1-Dichloroethylene (75-35-4)			X												
17V. 1,2-Dichloropropane (78-87-5)			X												
18V. 1,3-Dichloropropylene (542-75-6)			X												
19V. Ethylbenzene (100-41-4)			X												
20V. Methyl Bromide (74-83-9)			X												
21V. Methyl Chloride (74-87-3)			X												

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS (*continued*)															
22V. Methylene Chloride (75-09-2)			X												
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X												
24V. Tetrachloroethylene (127-18-4)			X												
25V. Toluene (108-88-3)			X												
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X												
27V. 1,1,1-Trichloroethane (71-55-6)			X												
28V. 1,1,2-Trichloroethane (79-00-5)			X												
29V Trichloroethylene (79-01-6)			X												
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)			X												
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X												
2A. 2,4-Dichlorophenol (120-83-2)			X												
3A. 2,4-Dimethylphenol (105-67-9)			X												
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X												
5A. 2,4-Dinitrophenol (51-28-5)			X												
6A. 2-Nitrophenol (88-75-5)			X												
7A. 4-Nitrophenol (100-02-7)			X												
8A. P-Chloro-M-Cresol (59-50-7)			X												
9A. Pentachlorophenol (87-86-5)			X												
10A. Phenol (108-95-2)			X												
11A. 2,4,6-Trichlorophenol (88-05-2)			X												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X												
2B. Acenaphtylene (208-96-8)			X												
3B. Anthracene (120-12-7)			X												
4B. Benzidine (92-87-5)			X												
5B. Benzo (*a*) Anthracene (56-55-3)			X												
6B. Benzo (*a*) Pyrene (50-32-8)			X												
7B. 3,4-Benzo-fluoranthene (205-99-2)			X												
8B. Benzo (*ghi*) Perylene (191-24-2)			X												
9B. Benzo (*k*) Fluoranthene (207-08-9)			X												
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)			X												
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)			X												
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)			X												
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)			X												
14B. 4-Bromophenyl Phenyl Ether (101-55-3)			X												
15B. Butyl Benzyl Phthalate (85-68-7)			X												
16B. 2-Chloro-naphthalene (91-58-7)			X												
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X												
18B. Chrysene (218-01-9)			X												
19B. Dibenzo (*a,h*) Anthracene (53-70-3)			X												
20B. 1,2-Dichloro-benzene (95-50-1)			X												
21B. 1,3-Di-chloro-benzene (541-73-1)			X												

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*)															
22B. 1,4-Dichlorobenzene (106-46-7)			X												
23B. 3,3-Dichlorobenzidine (91-94-1)			X												
24B. Diethyl Phthalate (84-66-2)			X												
25B. Dimethyl Phthalate (131 -11-3)			X												
26B. Di-N-Butyl Phthalate (84-74-2)			X												
27B. 2,4-Dinitrotoluene (121-14-2)			X												
28B. 2,6-Dinitrotoluene (606-20-2)			X												
29B. Di-N-Octyl Phthalate (117-84-0)			X												
30B. 1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7)			X												
31B. Fluoranthene (206-44-0)			X												
32B. Fluorene (86-73-7)			X												
33B. Hexachlorobenzene (118-74-1)			X												
34B. Hexachlorobutadiene (87-68-3)			X												
35B. Hexachlorocyclopentadiene (77-47-4)			X												
36B Hexachloroethane (67-72-1)			X												
37B. Indeno (1,2,3-*cd*) Pyrene (193-39-5)			X												
38B. Isophorone (78-59-1)			X												
39B. Naphthalene (91-20-3)			X												
40B. Nitrobenzene (98-95-3)			X												
41B. N-Nitrosodimethylamine (62-75-9)			X												
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*)															
43B. N-Nitro-sodiphenylamine (86-30-6)			X												
44B. Phenanthrene (85-01-8)			X												
45B. Pyrene (129-00-0)			X												
46B. 1,2,4-Tri-chlorobenzene (120-82-1)			X												
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Enosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
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CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICIDES (*continued*)															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (*use the same format*) instead of completing these pages.
SEE INSTRUCTIONS.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
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V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO.
003

PART A –You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO. OF ANALYSES	3. UNITS (*specify if blank*) a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (*BOD*)	74	2376	22	741	13	384	361	mg/l	kg/d			
b. Chemical Oxygen Demand (*COD*)	391	12888	292	9056	199	6114	19	mg/l	kg/d			
c. Total Organic Carbon (*TOC*)	43	1276					1	mg/l	kg/d			
d. Total Suspended Solids (*TSS*)	129	3233	46	1241	17	500	361	mg/l	kg/d			
e. Ammonia (*as N*)	1.66	47.75	1.22	35.38	0.58	17.61	14	mg/l	kg/d			
f. Flow	VALUE 11.06		VALUE 8.76		VALUE 7.84			MGD	MGD	VALUE		
g. Temperature (*winter*)	VALUE 20.3		VALUE 15.1		VALUE 13.0		151	°C		VALUE		
h. Temperature (*summer*)	VALUE 30.7		VALUE 27.1		VALUE 23.4		214	°C		VALUE		
i. pH	MINIMUM 7.06	MAXIMUM 8.50	MINIMUM 7.64	MAXIMUM 8.07			365	STANDARD UNITS				

PART B – Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (*if available*)	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)	X		6.5	192.88					1	mg/l	kg/d			
b. Chlorine, Total Residual		X	<0.0051	<0.151					1	mg/l	kg/d			
c. Color	X		1705	---	930	---	569	---	263	PCU	---			
d. Fecal Coliform	X		2800	---			1675	---	2	col/100m	---			
e. Fluoride (16984-48-8)		X	0.12 J	3.56					1	mg/l	kg/d			
f. Nitrate-Nitrite (*as N*)	X		5.15	147.95	2.47	70.02	0.58	16.82	53	mg/l	kg/d			

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (*if available*)	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)	X		4.42	145.72	3.17	103.45	2.40	76.06	14	mg/l	kg/d			
h. Oil and Grease	X		<5.3	<157.27					1	mg/l	kg/d			
i. Phosphorus (as P), Total (7723-14-0)	X		0.56	18.67	0.32	10.56	0.23	6.61	53	mg/l	kg/d			
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (*as SO_4*) (14808-79-8)	X		86	2552					1	mg/l	kg/d			
l. Sulfide (*as S*)		X												
m. Sulfite (*as SO_3*) (14265-45-3)		X												
n. Surfactants	X		0.082 J	2.43					1	mg/l	kg/d			
o. Aluminum, Total (7429-90-5)	X		370	10.98					1	ug/l	kg/d			
p. Barium, Total (7440-39-3)	X		270	8.01					1	ug/l	kg/d			
q. Boron, Total (7440-42-8)	X		1100	32.64					1	ug/l	kg/d			
r. Cobalt, Total (7440-48-4)	X		0.76 J	0.023					1	ug/l	kg/d			
s. Iron, Total (7439-89-6)	X		82 J	2.43					1	ug/l	kg/d			
t. Magnesium, Total (7439-95-4)	X		10000	296.74					1	ug/l	kg/d			
u. Molybdenum, Total (7439-98-7)	X		1.9 J	0.056					1	ug/l	kg/d			
v. Manganese, Total (7439-96-5)	X		530	15.73					1	ug/l	kg/d			
w. Tin, Total (7440-31-5)	X		<2.5	<0.074					1	ug/l	kg/d			
x. Titanium, Total (7440-32-6)	X		5.1	0.151					1	ug/l	kg/d			

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
VAD003113602	003

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X			0.61 J	0.018					1	ug/l	kg/d			
2M. Arsenic, Total (7440-38-2)	X			1.0 J	0.030					1	ug/l	kg/d			
3M. Beryllium, Total (7440-41-7)	X			<2.5	0.074					1	ug/l	kg/d			
4M. Cadmium, Total (7440-43-9)	X			0.59 J	0.018					1	ug/l	kg/d			
5M. Chromium, Total (7440-47-3)	X			<2.5	0.074					1	ug/l	kg/d			
6M. Copper, Total (7440-50-8)	X			<2.5	0.074					1	ug/l	kg/d			
7M. Lead, Total (7439-92-1)	X			0.73 J	0.022					1	ug/l	kg/d			
8M. Mercury, Total (7439-97-6)	X			0.00010 J	0.003					1	mg/l	kg/d			
9M. Nickel, Total (7440-02-0)	X			1.2 J	0.036					1	ug/l	kg/d			
10M. Selenium, Total (7782-49-2)	X			<1.2	<0.036					1	ug/l	kg/d			
11M. Silver, Total (7440-22-4)	X			<0.5	0.015					1	ug/l	kg/d			
12M. Thallium, Total (7440-28-0)	X			<0.5	0.015					1	ug/l	kg/d			
13M. Zinc, Total (7440-66-6)	X			9.4 J	0.279					1	ug/l	kg/d			
14M. Cyanide, Total (57-12-5)	X			0.006 J	0.178					1	mg/l	kg/d			
15M. Phenols, Total	X			0.009 J	0.267					1	mg/l	kg/d			
DIOXIN															
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS ND at reporting limit of 10 ppq											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)	X			<100	<2.967					1	ug/l	kg/d			
2V. Acrylonitrile (107-13-1)	X			<100	<2.967					1	ug/l	kg/d			
3V. Benzene (71-43-2)	X			<5	<0.148					1	ug/l	kg/d			
4V. Bis (*Chloromethyl*) Ether (542-88-1)			X	delisted											
5V. Bromoform (75-25-2)	X			<5	<0.148					1	ug/l	kg/d			
6V. Carbon Tetrachloride (56-23-5)	X			<5	<0.148					1	ug/l	kg/d			
7V. Chlorobenzene (108-90-7)	X			<5	<0.148					1	ug/l	kg/d			
8V. Chlorodibromomethane (124-48-1)	X			<5	<0.148					1	ug/l	kg/d			
9V. Chloroethane (75-00-3)	X			<10	<0.297					1	ug/l	kg/d			
10V. 2-Chloroethylvinyl Ether (110-75-8)	X			<50	<1.484					1	ug/l	kg/d			
11V. Chloroform (67-66-3)	X			<5	<0.148					1	ug/l	kg/d			
12V. Dichlorobromomethane (75-27-4)	X			<5	<0.148					1	ug/l	kg/d			
13V. Dichlorodifluoromethane (75-71-8)	X			<5	<0.148					1	ug/l	kg/d			
14V. 1,1-Dichloroethane (75-34-3)	X			<5	<0.148					1	ug/l	kg/d			
15V. 1,2-Dichloroethane (107-06-2)	X			<5	<0.148					1	ug/l	kg/d			
16V. 1,1-Dichloroethylene (75-35-4)	X			<5	<0.148					1	ug/l	kg/d			
17V. 1,2-Dichloropropane (78-87-5)	X			<5	<0.148					1	ug/l	kg/d			
18V. 1,3-Dichloropropylene (542-75-6)	X			<5	<0.148					1	ug/l	kg/d			
19V. Ethylbenzene (100-41-4)	X			<5	<0.148					1	ug/l	kg/d			
20V. Methyl Bromide (74-83-9)	X			<10	<0.297					1	ug/l	kg/d			
21V. Methyl Chloride (74-87-3)	X			<10	<0.297					1	ug/l	kg/d			

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS (*continued*)															
22V. Methylene Chloride (75-09-2)	X			<5	<0.148					1	ug/l	kg/d			
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			<5	<0.148					1	ug/l	kg/d			
24V. Tetrachloroethylene (127-18-4)	X			<5	<0.148					1	ug/l	kg/d			
25V. Toluene (108-88-3)	X			<5	<0.148					1	ug/l	kg/d			
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			<5	<0.148					1	ug/l	kg/d			
27V. 1,1,1-Trichloroethane (71-55-6)	X			<5	<0.148					1	ug/l	kg/d			
28V. 1,1,2-Trichloroethane (79-00-5)	X			<5	<0.148					1	ug/l	kg/d			
29V Trichloroethylene (79-01-6)	X			<5	<0.148					1	ug/l	kg/d			
30V. Trichlorofluoromethane (75-69-4)	X			<5	<0.148					1	ug/l	kg/d			
31V. Vinyl Chloride (75-01-4)	X			<10	<0.297					1	ug/l	kg/d			
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			<3.9	<0.116					1	ug/l	kg/d			
2A. 2,4-Dichlorophenol (120-83-2)	X			<3.9	<0.116					1	ug/l	kg/d			
3A. 2,4-Dimethylphenol (105-67-9)	X			<3.9	<0.116					1	ug/l	kg/d			
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			<19	<0.564					1	ug/l	kg/d			
5A. 2,4-Dinitrophenol (51-28-5)	X			<19	<0.564					1	ug/l	kg/d			
6A. 2-Nitrophenol (88-75-5)	X			<3.9	<0.116					1	ug/l	kg/d			
7A. 4-Nitrophenol (100-02-7)	X			<19	<0.564					1	ug/l	kg/d			
8A. P-Chloro-M-Cresol (59-50-7)	X			<3.9	<0.116					1	ug/l	kg/d			
9A. Pentachlorophenol (87-86-5)	X			<19	<0.564					1	ug/l	kg/d			
10A. Phenol (108-95-2)	X			<3.9	<0.116					1	ug/l	kg/d			
11A. 2,4,6-Trichlorophenol (88-05-2)	X			<3.9	<0.116					1	ug/l	kg/d			

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			<3.9	<0.116					1	ug/l	kg/d			
2B. Acenaphtylene (208-96-8)	X			<3.9	<0.116					1	ug/l	kg/d			
3B. Anthracene (120-12-7)	X			<3.9	<0.116					1	ug/l	kg/d			
4B. Benzidine (92-87-5)	X			<31	<0.920					1	ug/l	kg/d			
5B. Benzo (*a*) Anthracene (56-55-3)	X			<3.9	<0.116					1	ug/l	kg/d			
6B. Benzo (*a*) Pyrene (50-32-8)	X			<3.9	<0.116					1	ug/l	kg/d			
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			<3.9	<0.116					1	ug/l	kg/d			
8B. Benzo (*ghi*) Perylene (191-24-2)	X			<3.9	<0.116					1	ug/l	kg/d			
9B. Benzo (*k*) Fluoranthene (207-08-9)	X			<3.9	<0.116					1	ug/l	kg/d			
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	X			<3.9	<0.116					1	ug/l	kg/d			
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	X			<3.9	<0.116					1	ug/l	kg/d			
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	X			<3.9	<0.116					1	ug/l	kg/d			
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)	X			<3.9	<0.116					1	ug/l	kg/d			
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	X			<3.9	<0.116					1	ug/l	kg/d			
15B. Butyl Benzyl Phthalate (85-68-7)	X			<3.9	<0.116					1	ug/l	kg/d			
16B. 2-Chloro-naphthalene (91-58-7)	X			<3.9	<0.116					1	ug/l	kg/d			
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X			<3.9	<0.116					1	ug/l	kg/d			
18B. Chrysene (218-01-9)	X			<3.9	<0.116					1	ug/l	kg/d			
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	X			<3.9	<0.116					1	ug/l	kg/d			
20B. 1,2-Dichloro-benzene (95-50-1)	X			<3.9	<0.116					1	ug/l	kg/d			
21B. 1,3-Di-chloro-benzene (541-73-1)	X			<3.9	<0.116					1	ug/l	kg/d			

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*)															
22B. 1,4-Dichlorobenzene (106-46-7)	X			<3.9	<0.116					1	ug/l	kg/d			
23B. 3,3-Dichlorobenzidine (91-94-1)	X			<7.8	<0.231					1	ug/l	kg/d			
24B. Diethyl Phthalate (84-66-2)	X			<3.9	<0.116					1	ug/l	kg/d			
25B. Dimethyl Phthalate (131-11-3)	X			<3.9	<0.116					1	ug/l	kg/d			
26B. Di-N-Butyl Phthalate (84-74-2)	X			<3.9	<0.116					1	ug/l	kg/d			
27B. 2,4-Dinitrotoluene (121-14-2)	X			<3.9	<0.116					1	ug/l	kg/d			
28B. 2,6-Dinitrotoluene (606-20-2)	X			<3.9	<0.116					1	ug/l	kg/d			
29B. Di-N-Octyl Phthalate (117-84-0)	X			<3.9	<0.116					1	ug/l	kg/d			
30B. 1,2-Diphenylhydrazine (as *Azobenzene*) (122-66-7)	X			<3.9	<0.116					1	ug/l	kg/d			
31B. Fluoranthene (206-44-0)	X			<3.9	<0.116					1	ug/l	kg/d			
32B. Fluorene (86-73-7)	X			<3.9	<0.116					1	ug/l	kg/d			
33B. Hexachlorobenzene (118-74-1)	X			<3.9	<0.116					1	ug/l	kg/d			
34B. Hexachlorobutadiene (87-68-3)	X			<3.9	<0.116					1	ug/l	kg/d			
35B. Hexachlorocyclopentadiene (77-47-4)	X			<3.9	<0.116					1	ug/l	kg/d			
36B Hexachloroethane (67-72-1)	X			<3.9	<0.116					1	ug/l	kg/d			
37B. Indeno (1,2,3-*cd*) Pyrene (193-39-5)	X			<3.9	<0.116					1	ug/l	kg/d			
38B. Isophorone (78-59-1)	X			<3.9	<0.116					1	ug/l	kg/d			
39B. Naphthalene (91-20-3)	X			<3.9	<0.116					1	ug/l	kg/d			
40B. Nitrobenzene (98-95-3)	X			<3.9	<0.116					1	ug/l	kg/d			
41B. N-Nitrosodimethylamine (62-75-9)	X			<3.9	<0.116					1	ug/l	kg/d			
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			<3.9	<0.116					1	ug/l	kg/d			

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*)															
43B. N-Nitrosodiphenylamine (86-30-6)	X			<3.9	<0.116					1	ug/l	kg/d			
44B. Phenanthrene (85-01-8)	X			<3.9	<0.116					1	ug/l	kg/d			
45B. Pyrene (129-00-0)	X			<3.9	<0.116					1	ug/l	kg/d			
46B. 1,2,4-Trichlorobenzene (120-82-1)	X			<3.9	<0.116					1	ug/l	kg/d			
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	X			<0.049	<0.001					1	ug/l	kg/d			
2P. α-BHC (319-84-6)	X			<0.049	<0.001					1	ug/l	kg/d			
3P. β-BHC (319-85-7)	X			<0.049	<0.001					1	ug/l	kg/d			
4P. γ-BHC (58-89-9)	X			<0.049	<0.001					1	ug/l	kg/d			
5P. δ-BHC (319-86-8)	X			<0.049	<0.001					1	ug/l	kg/d			
6P. Chlordane (57-74-9)	X			<0.49	<0.015					1	ug/l	kg/d			
7P. 4,4'-DDT (50-29-3)	X			<0.097	<0.003					1	ug/l	kg/d			
8P. 4,4'-DDE (72-55-9)	X			<0.097	<0.003					1	ug/l	kg/d			
9P. 4,4'-DDD (72-54-8)	X			<0.097	<0.003					1	ug/l	kg/d			
10P. Dieldrin (60-57-1)	X			<0.097	<0.003					1	ug/l	kg/d			
11P. α-Enosulfan (115-29-7)	X			<0.049	<0.001					1	ug/l	kg/d			
12P. β-Endosulfan (115-29-7)	X			<0.097	<0.003					1	ug/l	kg/d			
13P. Endosulfan Sulfate (1031-07-8)	X			<0.097	<0.003					1	ug/l	kg/d			
14P. Endrin (72-20-8)	X			<0.097	<0.003					1	ug/l	kg/d			
15P. Endrin Aldehyde (7421-93-4)	X			<0.097	<0.003					1	ug/l	kg/d			
16P. Heptachlor (76-44-8)	X			0.046 J	<0.001					1	ug/l	kg/d			

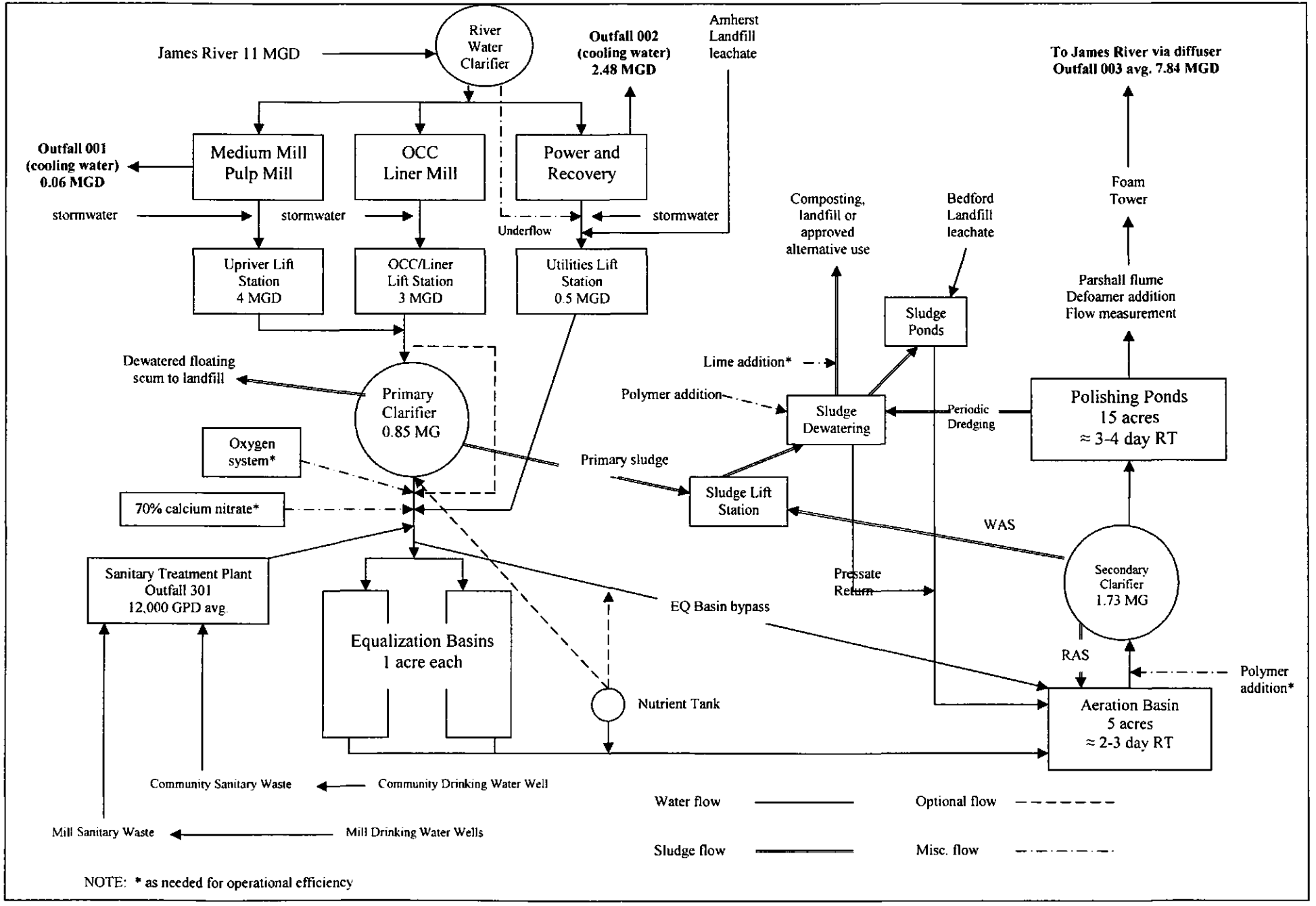
EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
VAD003113602	003

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICIDES (*continued*)															
17P. Heptachlor Epoxide (1024-57-3)	X			<0.049	<0.001					1	ug/l	kg/d			
18P. PCB-1242 (53469-21-9)	X			<0.97	<0.029					1	ug/l	kg/d			
19P. PCB-1254 (11097-69-1)	X			<0.97	<0.029					1	ug/l	kg/d			
20P. PCB-1221 (11104-28-2)	X			<1.9	<0.056					1	ug/l	kg/d			
21P. PCB-1232 (11141-16-5)	X			<0.97	<0.029					1	ug/l	kg/d			
22P. PCB-1248 (12672-29-6)	X			<0.97	<0.029					1	ug/l	kg/d			
23P. PCB-1260 (11096-82-5)	X			<0.97	<0.029					1	ug/l	kg/d			
24P. PCB-1016 (12674-11-2)	X			<0.97	<0.029					1	ug/l	kg/d			
25P. Toxaphene (8001-35-2)	X			<4.9	<0.145					1	ug/l	kg/d			

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Attachment to Form 2C
GP Big Island, LLC
Water Flow Diagram



Attachment 3 to Form 2C
Process Materials Listed in Table 2C-4
GP Big Island, LLC
VPDES Permit No. VA0003026

Chemical	Location	Tank Capacity, Gallons	Treatment Provided
Sodium Hydroxide 50%	Utilities	38,730	In all cases of spills of these materials, materials will be recovered from containment or routed to the wastewater treatment system for complete treatment as appropriate. Aluminum sulfate if a commonly used coagulant that will primarily coagulate with primary solids and be removed in the primary clarifier. Diesel, gasoline, lube oils and hydraulic oils are fully treatable and removed in the extended aeration biological treatment process.
Sodium Hydroxide 50%	Linerboard Machine	13,535	
Sodium Hypochlorite 12.5%	Linerboard Machine	500	
Aluminum Sulfate	Water Treatment	8,000	
Aluminum Sulfate	Linerboard Machine	13,535	
Diesel	Tank Farm	125,000	
Diesel	Utilities	1,000	
Diesel	Woodyard	4,000	
Gasoline	Woodyard	1,000	
Lubrication oils	Various mill locations	5,000	
Hydraulic oils	Various mill locations	1,000	

ATTACHMENT C TO FORM 2C
PROCESS OPERATIONS CONTRIBUTING WASTEWATER
GP BIG ISLAND, LLC
VPDES Permit No. VA0003026

The GP Big Island, LLC facility falls within SIC code 2631, and produces unbleached, corrugating medium and linerboard from hardwood pulp and pre-and post-consumer recycled fiber.

1.1. CHIP HANDLING OPERATIONS

Chip Handling operations at the Big Island Mill receive, prepare, and convey wood chips to the Pulp Mill as the beginning step in the pulp production process. Hardwood chips from species of oak, poplar, maple, and gum are received by truck from off-site chipping facilities. These chips are unloaded using trailer dumpers and conveyed to a chip pile, reclaimed and screened. The screening operation separates the chips into oversize, accepts and fines. Accepted chips are transported to the Pulp Mill, while oversized chips are further processed and then re-screened. Fines from screening are transported to the Refuse Handling System.

1.2. VIRGIN PULP MILL

Process operations in the Pulp Mill begin with delivery of the hardwood chips from the Chip Handling operations. This area is comprised of the production, washing, and preparation of pulp that is sent to the Medium Mill for paper production.

1.2.1. Conveying

Hardwood chips are transported to the Pulp Mill using covered belt conveyors. The chips are distributed into one of five parallel chip bins for storage, before being transported by an enclosed bucket elevator and belt conveyor to five parallel chip hoppers, and conveyed through chutes to the digester screw feeders.

1.2.2. Pulping

The Pulp Mill operates four, Pandia 24-inch diameter continuous digester units. Chips are cooked in the digesters with finished liquor (a solution of sodium carbonate and sodium hydroxide), with heat and pressure provided by steam. After cooking, pulp from the digesters passes through a blow line defibrator to a common blow tank. Pulp is diluted in the blow tank with washer filtrate prior to being pumped to the stock storage chest. From the stock storage chest, pulp is pumped to the pulp washers.

1.2.3. Pulp Washing

The pulp brownstock washer system consists of two parallel, three-stage vacuum drum washing lines, with three associated filtrate tanks and two vacuum pumps. The washers are typically operated with counter-current washing, with filtrate from the second and third stages used as wash water in the preceding stage.

Vacuum seal water is applied to the third stage, with fresh water used as make-up when the seal water supply is low. Heat recovered from digester blow gases is used to heat vacuum pump seal water and cooking liquor. Washer filtrate from the first washing stage typically consists of seven to nine percent black liquor solids. This filtrate, commonly referred to as weak black liquor (WBL), is pumped to the black liquor surge tank, located in the Chemical Recovery process area.

1.2.4. Stock Preparation

After brownstock washing, pulp is dewatered using a screen and stored in chests prior to utilization on No. 1 and No. 3 Paper Machines. The pulp passes through primary and secondary refiners and then to a machine chest in which recovered fiber from the paper-making process (broke) is reincorporated into the paper machine feed stock. Fiber from the recycle fiber facility and double lined Kraft (DLK) pulper is added to improve the paper quality on the No. 1 and No. 3 Paper Machines. The blended pulp passes through three stages of centrifugal cleaners before it is sent to the No. 1 and No. 3 Paper Machines. Rejects from the three stage cleaners pass through the rejects refiner and are returned to the fiber line at the broke chest.

1.3. MEDIUM MILL

The Nos. 1 and 3 Paper Machines in the Medium Mill produce corrugating medium from semichemical pulp produced in the Pulp Mill and recycled fiber produced at the Linerboard Mill or DLK pulper.

Stock is diluted, screened, passed through centrifugal cleaners, and pumped to the paper machine headbox, where the stock is evenly distributed across the forming wire. The water in the paper stock is removed by gravity drainage in the "wet end", mechanical pressing in the "press section", and evaporation in the "dryer section." The dryer cans are heated with 200 pounds per square inch (psi) steam. The paper is dried to 10% moisture content and wound on a reel. The reel of paper is slit and rewound to rolls sized for delivery to the customer.

Defoamer, wet strength, and rewetter may be added to the stock prior to the paper machine headbox. Biocides and slimicides may be added as needed to the whitewater to control microbial growth on the paper machine. Cleaning chemicals are used on a batch and continuous basis to keep pitch, inorganic deposits, and other sticky deposits from forming on paper machine wires and felts.

Paper trimmings and off-specification product are returned to the stock system for reprocessing at the broke chest. Paper machine whitewater is reused as dilution water as needed in various Medium Mill and Pulp Mill tanks, including the blow tank, machine chest, and high density storage tank. The remaining whitewater is screened using a disc

thickener saveall for fiber recovery before discharge to the wastewater treatment system.

1.4. CHEMICAL RECOVERY

An essential part of the pulping process is the recovery of chemicals for reuse. Prior to October 2009, the Mill processed black liquor for chemical recovery through two smelters. Beginning October 2009, the mill began using a new chemical recovery furnace.

1.4.1. Black Liquor

Weak black liquor (WBL) from the Pulp Mill is received in the WBL surge tank. From the surge tank, WBL can be sent to the WBL storage tank farm or to the evaporators. The WBL tank farm consists of one, 540,000-gallon storage tank and two, 900,000-gallon tanks. WBL is passed through a two-effect blow heat evaporator (BHE) for concentration. The liquor is further concentrated to approximately 60% black liquor solids (BLS) in a six-effect falling film evaporator and high solids concentrator set, also known as the multi-effect evaporator (MEE). Concentrated liquor is referred to as strong black liquor (SBL).

1.4.2. Chemical Recovery Furnace

SBL is fired in the new recovery furnace to recover sodium carbonate from black liquor. The recovery furnace is designed to combust 200 tons of BLS per day. Black liquor is introduced into the recovery furnace via steam-atomized liquor guns.

1.4.3. Finished Liquor

The sodium carbonate smelt from the recovery furnace flows into a smelt dissolving tank. Evaporator condensate is added to the smelt in the dissolving tank to generate green liquor. The green liquor is clarified to remove dregs (*i.e.*, insoluble materials). The clarifier underflow is sewered.

Storage tanks for sodium carbonate, sodium hydroxide, and evaporator condensate store chemicals that are added to green liquor to increase the caustic and carbonate concentrations to that of finished cooking liquor. Sodium hydroxide is received by rail or truck, typically as a 50% solution. Sodium carbonate is received by rail or truck as a solid and made up to strength with evaporator condensates then stored for use as make-up in the Trim Tank. Finished liquor is stored and sent to the Pulp Mill.

1.5. LINERBOARD MILL

The Linerboard and Old Corrugated Container (OCC) facility at the Big Island Mill was constructed in 1995 for the manufacturing of linerboard from recycled fiber extracted from old corrugated containers and DLK.

The Linerboard Mill consists of the recycled fiber facility, No. 4 Paper Machine, and various support activities (what about the No. 6 Boiler?). The recycled fiber facility pulps recycled paper, cleans the pulp of impurities and contaminants, and stores the stock for use in making linerboard and corrugating medium. Baled OCC and mixed office paper are delivered by truck and rail and stored on an outdoor pad adjacent to the Mill. The OCC bales are re-pulped in a hydropulper by mixing the paper with hot water and additives. Some heavy impurities are removed in the hydropulper. Recycled pulp is further cleansed by passing through several series of centrifugal cleaners and screens. The cleaned paper stock is thickened and stored for use on the Nos. 1, 3, and 4 Paper Machines.

Impurities from the recycled pulp, referred to as OCC rejects, are dewatered in a mechanical press and conveyed to a bunker for accumulation. The OCC rejects are transported to the refuse pile for use as fuel for the No. 5 Boiler or landfilled.

The No. 4 Paper Machine produces linerboard or medium using 100% recycled fiber. The recycled pulp is diluted, mechanically refined, and pumped to the headboxes of the paper machine where the paper stock is evenly distributed across the forming wire. The water in the paper stock is removed by gravity drainage in the "wet end," mechanical pressing in the "press section," and evaporated in the "dryer section." The paper is dried to approximately 10% moisture and wound on a reel, which is slit and rewound onto smaller rolls per customer specifications for shipping by rail or truck.

Specific chemicals are added to the No. 4 Paper Machine whitewater and paper stock prior to the headbox to enhance strength and other paper properties, and to control pH, foam, and microorganism growth in the whitewater. Dye may be added to the paper stock per customer specifications. Cleaning chemicals are utilized to minimize formation of polyvinyl acetate and other sticky deposits on the paper machine wires and felt rolls.

1.6. POWER HOUSE AND UTILITIES

The Big Island Mill operates three steam generating units to provide steam, power, and process water to the pulp and paper manufacturing process. A secondary function of the boilers is the combustion of non-condensable gases from the pulp production process, which are routed to the Nos. 4 and 5 Boilers for destruction.

The No. 4 Boiler is rated at 284 million British thermal units per hour (MMBtu/hr) and fires pulverized coal and distillate (No. 2) fuel oil. The No. 5 Boiler is rated at

243 MMBtu/hr during coal firing and up to 339 MMBtu/hr when firing a mixture of fuels, including coal, wood, wastepaper pellets, rubber, on-site used oil, OCC rejects, and plytrim. Each of the Nos. 4 and 5 Boilers employ a multicyclone and electrostatic precipitator for control of particulate matter emissions.

The No. 6 Boiler has a heat input capacity of 284.9 MMBtu/hr, is fired primarily by natural gas with oil and propane as back-up fuels, and employs integral low-NO_x burners and flue gas recirculation to control emissions. The No. 6 Boiler was installed in 1995 to provide steam to the Linerboard Mill.

1.7. WASTEWATER TREATMENT

The Mill processes industrial wastewater and sanitary wastewater.

1.7.1. Sanitary Wastewater Treatment

The Big Island Mill treats sanitary wastewater from the paper mill and some of the Big Island community in an activated sludge package plant located adjacent to the equalization basins. Treated sanitary wastewater is discharged to the industrial wastewater treatment system prior to the activated sludge basin. Periodically, sludge solids from the sanitary treatment system may be removed by a vacuum truck operated by a licensed contractor and hauled to a Publicly Owned Treatment Works (POTW) for further processing..

1.7.2. Industrial Wastewater Treatment

The Mill operates an on-site activated sludge wastewater treatment facility to treat process wastewater. Wastewater is collected at one of three lift stations. Oxygen may be added to the effluent from the No.4 Lift station effluent as needed to control potential odor in the primary clarifier. A primary clarifier removes fiber and grit from paper machine and pulp mill effluent. Primary sludge is typically pumped to the sludge press. Primary sludge may also be returned to the Linerboard Mill for reprocessing, or dewatering via the OCC rejects screw press. Nutrients, such as phosphorus and nitrogen, are added to the wastewater after primary clarification as needed.

Wastewater undergoes extended aeration with activated sludge treatment in the aeration basin. The number of aerators in operation is based on maintaining a minimum dissolved oxygen of at least 1 mg/L in the aeration basin. A lift station pumps wastewater from the aeration basin to the secondary clarifier, in which the biological sludge solids are allowed to settle. A majority of the sludge in the clarifier underflow is returned to the aeration basin. The remaining waste secondary sludge is sent to the sludge press. Clarified wastewater is discharged to the polishing pond. The polishing pond discharges treated wastewater to a

parshall fume equipped with a composite sampler and thence, to a foam-control tower before release to the James River via a diffuser.

Wastewater sludge from the primary clarifier and secondary clarifier is pumped to the dewatering building and stored in sludge tanks. Combined primary and secondary sludge is then dewatered via a belt press. Polymer is added to the sludge to assist with dewatering. Sludge press filtrate is pumped to the aeration basin. A lime stabilization system was added in 2002. Dewatered sludge is combined with lime on an as-needed basis for better handling characteristics when sludge is landfilled. Lime is received in granular form and conveyed pneumatically to a 50-ton silo. Dewatered sludge is currently landfilled or composted.

Sludge may occasionally be removed from the polishing pond, equalization basins and aeration basin as regularly scheduled maintenance. Sludge solids will be either disposed in the landfill or transported to the approved composting facility. Additionally, in the event of maintenance of the sludge press, the facility maintains two emergency sludge basins for sludge dewatering. Sludge solids removed from these basins may be disposed as any other sludge solids.

The Mill wastewater and stormwater falling in the process areas of the Mill are collected in various sewers and flow by gravity to the wastewater treatment system. In addition to the normal process and non-process wastewaters collected, the Mill may discharge wastewaters resulting from essential maintenance and regularly scheduled maintenance, during startup and shutdown conditions, and from incidental spills and releases (whether anticipated or unanticipated) from anywhere in the permitted facility. The primary materials that may reach the wastewater treatment system from these activities are described in Tables 3-1 and 3-2 following this attachment. These wastewaters are amenable to treatment as provided in the treatment system, and do not impact effluent limitations.

It may be necessary at times to take the clarifiers off line for several days for periodic inspection and maintenance, or to take the aeration basin power off-line for several hours for electrical maintenance. Since the system will be operated such that effluent limitations are not exceeded, these maintenance activities will not be considered bypass events.

1.8. LANDFILL

The Mill transports on-site wastes to its captive industrial landfill located across the James River in Amherst County. Waste materials include wastewater sludge, fly and bottom ash, OCC rejects, and non-putrescible mill trash and any other materials defined in the solid waste permit. Waste materials are transferred from transport vehicles and spread, compacted, and covered.

Table [redacted] Chemical [redacted]ading Areas

Process Area	Unloading Area	Delivery By	Chemical/Material	Spill Containment/Disposal
Recovery	Rail siding	Rail Car	Caustic, Soda Ash	Area slopes toward trench which drains to process sewer and WWTP.
Recovery	Recovery Area Tank Farm Courtyard	Truck	Caustic, Soda Ash	Concrete pad, area slopes toward trench which drains to process sewer and WWTP.
Power House	Courtyard outside NE corner of Water Treatment Plant	Truck (totes or multi-compartment bulk	Caustic, Boiler Water Treatment, Defoamer	Paved area, slopes towards process sewer and WWTP.
Power House - Water Treatment	Courtyard outside NE corner of Water Treatment Plant	Truck (totes or multi-compartment bulk	Polymer, Salt, Alum	Paved area, slopes towards process sewer and WWTP.
Medium Mill	No. 3 Paper Machine Courtyard	Truck (totes)	Detergent or Caustic based cleaners, Defoamer, Oil	Paved area, slopes towards process sewer and WWTP.
Medium Mill	No. 3 Paper Machine Courtyard	Truck (bulk)	Defoamer, Feltwash	Paved area, slopes towards process sewer and WWTP.
Linerboard Mill	Additive unloading alleyway and south end of No. 4 PM basement	Truck (totes)	Detergent or Caustic based cleaner, Biocide, Defoamer, Shade control	Paved area, slopes towards process sewer and WWTP.
Linerboard Mill	Additive unloading alleyway	Truck (bulk or totes)	Defoamer, Detergent or caustic based cleaners, Polymer, Alum, Starch, Sizing, Antiskid	Paved area, slopes towards process sewer and WWTP.
Wastewater Treatment	Primary Clarifier	Truck (bulk)	Nitrogen/Phosphorus Blend (Nutrient)	Area is contained. Stormwater is pumped to WWTP.
Wastewater Treatment	Primary Clarifier	Truck (bulk)	Calcium Nitrate	Area is contained. Stormwater is pumped to WWTP.
Wastewater Treatment	Sludge Press	Truck (bulk)	Polymer	Concrete pad drains to process sewer and WWTP.

Table 3-2

Outside Storage Tanks

Process Area	Tank	Contents	Volume Gallons	Containment Drainage
Pulp Mill	Propane	Liquified Propane	1000 ea (2 tanks)	NA
Medium Mill	Felt Cleaner	Presstige	6,400	Concrete containment pad. Area drains to process sewer & WWTP
Medium Mill	High Density (HD) Pulp Tank	Paper Stock	581,668	Concrete containment pad. Area drains to process sewer & WWTP
Medium Mill	Sweco	Paper Stock		Area drains to process sewer and WWTP
Medium Mill	Warm Water	Warm Water		Area drains to process sewer and WWTP
Medium Mill	Used Oil	Used Oil	1,000	Tank is contained
Water Treatment	Alum Tank	48.5% Alum	8,000	Tank is contained
Water Treatment	Boiler Condensate	Boiler Condensate	15,040	Area drains to process sewer and WWTP
Water Treatment	Salt Tank	Salt	8,500	Area drains to process sewer and WWTP
Water Treatment	Caustic Tank	Sodium hydroxide	7,530	Area drains to process sewer and WWTP
Recovery	Kerosene Tank	Kerosene	300	Area drains to process sewer and WWTP
Recovery	Sodium Carbonate (3)	Sodim Carbonate	39,657 ea	Area drains to process sewer and WWTP
Recovery	Strong Black Liquor	Strong black liquor	100,000	Area drains to process sewer and WWTP
Recovery	Green Liquor	Green Liquor	150,000	Area drains to process sewer and WWTP
Recovery	Swing Tank	Weak black liquor or green liquor	150,000	Area drains to process sewer and WWTP
Recovery	Surge Tank	Weak black liquor	16,919	Area drains to process sewer and WWTP
Recovery	Rec. Boiler Area Tanks (4)	Black liquor or green liquor	6,750 to 90,000	Area drains to process sewer and WWTP
Recovery	Finished Liquor Tank	White liquor	174,000	Area drains to process sewer and WWTP
Power House	Diesel fuel day tank	Diesel fuel	1,000	Tank is contained
Woodyard	Diesel fuel tank	Diesel fuel	4,000	Double walled tank with curbing
Woodyard	Gasoline Tank	Gasoline	1,000	Double walled tank with curbing
Linerboard Mill	Dump Chest	Paper Stock	177,732	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Caustic Tank	Sodim hydroxide	13,535	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Alum Tank	Alum 48.5%	13,535	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Size	Chemical Additive	6,400	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Defoamer	Defoamer	5,500	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Broke	Paper Stock	155,600	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	High Density (HD) Pulp Tank	Paper Stock	667,071	Tank is loacted within concrete containment. Area drains to WWTP

Table 3-2

Outside Storage Tanks

Process Area	Tank	Contents	Volume Gallons	Containment Drainage
Linerboard Mill	Low Density storage chest	Paper Stock	45,494	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Whitewater	Dilute stock solution	154,171	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Propane (2)	Liquified Propane	1,000 ea	N/A
Linerboard Mill	Kerosene Tank	Kerosene	250	Tank is contained and area drains to stormwater sewer
Linerboard Mill	Starch Silo	Starch		Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Size	Chemical Additive	10000	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Hercobond Tank	Chemical Additive	6400	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Fire Tank	Mill Water		Area drains to stormwater sewer
Tank Farm	Weak Black Liquor	weak black Liquor	588,000	Tank is located within an earthern berm
Tank Farm	Weak Black Liquor (2)	Weak black liquor	900,000	Tank is located within an earthern berm
Tank Farm	Diesel fuel storage tank	Diesel fuel	125,000	Tank is located within an earthern berm
WWTP	Nutrient	Urea-phosphoric Acid	6,000	Tank is located within concrete containment.
WWTP	Primary Clarifier	Industrial Wastewater	853,000	Area drains to stormwater sewer
WWTP	Calcium Nitrate Tank	Calcium Nitrate	5,000	Tank is located within containment
WWTP	Propane Tank	Liquified propane	500	N/A
WWTP	Secondary Clarifier	Industrial Wastewater	1,700,000	Area drains to WWTP and stormwater
WWTP	Sludge Tanks (2)	Industrial Wastewater Sludge	100,000 ea	Tank equipped with high level interlocks. Area drains to stormwater
WWTP	Lime Silo	Quicklime	50 tons	Tank equipped with high level interlocks. Area drains to WWTP
Amherst Landfill	Diesel Truck	Diesel fuel	2000	Truck is located within a lined earthern berm

Attachment D to Form 2C
Treatment Unit Capacities
GP Big Island, LLC
VPDES Permit No. VA0003026

Average Flow Rate (Q_{AVG}): 7.84 MGD
Design Flow Rate: 10.87 MGD

PRIMARY CLARIFIER

Number:	1
Diameter:	110 feet
Sidewall Depth:	12 feet
Storage Capacity:	0.85 MG

EQUALIZATION BASINS

Number:	2
Depth (per basin):	10.5 feet
Surface Area (per basin):	1 acre
Storage Capacity (per basin):	3.42 MG
Detention Time (both basins):	0.87 day at Q_{AVG}

AERATION BASIN

Number:	1
Depth:	12 feet
Surface Area:	5 acres
Storage Capacity:	19.5 MG
Detention Time:	2.48 days at Q_{AVG}

SECONDARY CLARIFIER

Number:	1
Diameter:	140 feet
Sidewall Depth:	15 feet
Storage Capacity:	1.73 MG

POLISHING POND

Number:	1
Depth:	6 feet
Surface Area:	15 acres
Storage Capacity:	29.3 MG
Detention Time:	3.73 days at Q_{AVG}

SLUDGE DEWATERING SYSTEM

(2) 100,000 gallon sludge holding/decant tanks
(1) polymer dilution system
(2) sludge feed pumps
(1) comminutor
(1) 2-meter belt filter press

SLUDGE DEWATERING LAGOONS

Number:	2
Depth:	6 feet
Surface Area (total):	6.5 acres
Storage Capacity (total):	12.7 MG

TOXICITY TEST DATA

Chronic Toxicity Test Results for GP Big Island, LLC
VPDES Permit No. VA0003026, Outfall 002

Test Date	Test Organism	TU_c	NOEC Survival (%)	NOEC Growth (%)	% Survival in 100% effluent	LC_{50}
Aug '05 (R)	P. promelas	1.0	100	100	100	>100
Aug '06 (R)	C. dubia	1.0	100	100	100	>100
May '07 (O)	P. promelas	1.0	100	100	97.5	>100
Apr '08 (O)	C. dubia	1.0	100	100	100	>100
May '09 (O)	P. promelas	1.0	100	100	97.5	>100

TOXICITY TEST DATA

Chronic Toxicity Test Results for GP Big Island, LLC
VPDES Permit No. VA0003026, Outfall 003

Test Date	Test Organism	TU_c	NOEC Survival (%)	NOEC Growth/ Reproduction (%)	LC_{50}
Aug '05 (R)	C. dubia	5.0	100	20	>100
	P. promelas	1.0	100	100	>100
Nov '05 (R)	C. dubia	1.0	100	100	>100
	P. promelas	1.0	100	100	>100
Feb '06 (R)	C. dubia	5.0	100	20	>100
	P. promelas	5.0	20	20	>100
May '06 (R)	C. dubia	5.0	100	20	>100
	P. promelas	5.0	100	20	>100
Aug '06 (R)	C. dubia	5.0	100	20	>100
	P. promelas	5.0	20	20	>100
Dec '06 (R)	C. dubia	5.0	100	20	>100
	P. promelas	1.0	100	100	>100
Apr '07 (O)	C. dubia	5.0	100	20	>100
	P. promelas	1.0	100	100	>100
Oct '07 (O)	C. dubia	1.0	100	100	>100
	P. promelas	1.0	100	100	>100
Apr '08 (O)	C. dubia	1.0	100	100	>100
	P. promelas	1.0	100	100	>100
Oct '08 (O)	C. dubia	1.0	100	100	>100
	P. promelas	1.0	100	100	>100
May '09 (O)	C. dubia	1.0	100	100	>100
	P. promelas	1.0	100	100	>100
Jul '09 (C)	C. dubia	5.0	100	20	>100
	P. promelas	5.0	100	20	>100
Oct '09 (C)	C. dubia	5.0	20	20	48.9
	P. promelas	1.0	100	100	>100

R= testing by REI Consultants, Beaver, WV
O= testing by Olver Inc, Blacksburg, VA
C=testing by Coastal Bioanalysts Inc, Gloucester, VA

Please print or type in the unshaded areas only.

EPA ID Number (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

FORM 2F NPDES

U.S. Environmental Protection Agency
Washington, DC 20460

Application for Permit to Discharge Storm Water Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number (*list*)	B. Latitude			C. Longitude			D. Receiving Water (*name*)
005	37	32	06	79	21	25	James River
007	37	32	02	79	21	22	James River
008	37	32	02	79	21	22	James River
009	37	21	00	79	21	20	James River
010	37	31	58	79	21	19	James River
012	37	31	54	79	21	15	James River
013	37	31	53	79	21	15	James River
014	37	31	48	79	21	14	James River
015	37	31	42	79	21	11	James River
017	37	31	39	79	21	09	James River

II. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.
Not applicable					

B. You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. *Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.*

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfalls(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage of disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which received storm water discharges from the facility.

See Appendix 1

Continue on Page 2

Please print or type in the unshaded areas only.

EPA ID Number (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

FORM 2F NPDES

U.S. Environmental Protection Agency
Washington, DC 20460

Application for Permit to Discharge Storm Water Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number (*list*)	B. Latitude			C. Longitude			D. Receiving Water (*name*)
018	37	31	28	79	21	05	Reed Creek to James River
021	37	32	12	79	21	32	James River
022	37	32	20	79	20	53	Unnamed tributary to James River
023	37	32	30	79	20	45	Unnamed tributary to Thomas Mill Creek
025	37	31	57	79	21	16	James River
026	37	30	42	79	21	39	Unnamed tributary to Reed Creek
028	37	32	20	79	20	74	Unnamed tributary to James River

II. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.
Not applicable					

B. You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfalls(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall, paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage of disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which received storm water discharges from the facility. See Appendix 1

Continue on Page 2

Continued from the Front

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of imperious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface *(provide units)*	Total Area Drained *(provide units)*	Outfall Number	Area of Impervious Surface *(provide units)*	Total Area Drained *(provide units)*
	See Attachment A (a)				

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

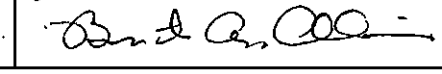
See Appendix 2

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
	See Attachment A	

V. Nonstormwater Discharges

A. I certify under penalty of law hat the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharged from these outfall(s) are identified in either an accompanying Form 2C or From 2E application for the outfall.

Name and Official Title *(type or print)*	Signature	Date Signed
Brent A. Collins - Vice Pres. Manuf.		12/22/09

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

Storm water outfalls are identified and evaluated in annual site compliance evaluations.

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

See Attachment B

Continued from Page 2

VII. Discharge Information

A, B, C, & D. See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Table VII-A, VII-B, VII-C are included on separate sheets numbers VII-1 and VII-2.

E. Potential discharges not covered by analysis – is any toxic pollutant listed in table 2F-2, 2F-3, or 2F-4, a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☑ Yes *(list all such pollutants below)* ☐ No *(go to Section IX)*

Color: contained in black liquor byproduct

Surfactants: cleaners

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☑ Yes *(list all such pollutants below)* ☐ No *(go to Section IX)*

See biological monitoring data presented in Attachment E as required by Part VII of Form 2C

IX. Contract Analysis Information

Were any of the analyses reported in Item VII performed by a contract laboratory or consulting firm?

☑ Yes *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☐ No *(go to Section X)*

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
Environmental Systems Service	218 North Main Street PO Box 520 Culpeper, VA 22701	(800) 541-2116	

X. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title *(Type Or Print)*	B. Area Code and Phone No.
Brent A. Collins - Vice President Manufacturing	(434) 299-5911
C. Signature	D. Date Signed
	12/22/09

EPA ID Number (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Outfall 555

Pollutant and CAS Number (*if available*)	Maximum Values (*include units*)		Average Values (*include units*)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	<5.00 mg/l	N/A	<5.00 mg/l	N/A	1	Outfall 010 sampled
Biological Oxygen Demand (BOD5)	12 mg/l	<6 mg/l	10 mg/l	<6 mg/l	2	Outfalls 009 and 010 sampled
Chemical Oxygen Demand (COD)	86.3 mg/l	47.6 mg/l	86.3 mg/l	47.6 mg/l	1	Outfall 010 sampled
Total Suspended Solids (TSS)	199 mg/l	124 mg/l	111 mg/l	124 mg/l	2	Outfalls 009 and 010 sampled
Total Nitrogen	2.45 mg/l	2.27 mg/l	2.45 mg/l	2.27 mg/l	1	Outfall 010 sampled
Total Phosphorus	0.10 mg/l	0.07 mg/l	0.10 mg/l	0.07 mg/l	1	Outfall 010 sampled
pH	Minimum 6.48	Maximum 7.40	Minimum 6.48	Maximum 7.40	2	Outfalls 009 and 010 sampled

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (*if available*)	Maximum Values (*include units*)		Average Values (*include units*)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Nitrate/Nitrite	0.847 mg/l	0.721 mg/l	0.847 mg/l	0.721 mg/l	1	Outfall 010 sampled
Copper, diss.	11 ug/l	N/A	10 ug/l	N/A	4	Outfalls 007, 009 and 010 sampled

Continue on Reverse

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 555 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
10/25/08	480	1.6	168		0.064 MG
11/24/08	180	0.75	216		0.030 MG
2/11/09	50	0.25	312		0.005 MG
5/3/09	600	1.6	288		0.064 MG
8/5/09	120	0.2	120		0.004 MG
10/14/09	450	0.5	408	22 gal/min	0.011 MG

7. Provide a description of the method of flow measurement or estimate.

Flow rate from 10/14/09 event was estimated from Manning's equations using the slope and depth method.

Total flow from all rain events was estimated using the runoff coefficient method.

EPA ID Number (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 012 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	<5.00 mg/l	N/A	<5.00 mg/l	N/A	1	
Biological Oxygen Demand (BOD5)	15 mg/l	6 mg/l	11 mg/l	6 mg/l	2	
Chemical Oxygen Demand (COD)	87.8 mg/l	38.6 mg/l	87.8 mg/l	38.6 mg/l	1	
Total Suspended Solids (TSS)	397 mg/l	152 mg/l	262 mg/l	152 mg/l	2	
Total Nitrogen	1.60 mg/l	2.68 mg/l	1.60 mg/l	2.68 mg/l	1	
Total Phosphorus	0.12 mg/l	0.07 mg/l	0.12 mg/l	0.07 mg/l	1	
pH	Minimum 6.53	Maximum 7.50	Minimum 6.53	Maximum 7.50	2	

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Nitrate/Nitrite	1.03 mg/l	0.581 mg/l	0.91 mg/l	0.581 mg/l	2	

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 012 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
3/13/09	2880	1.75	552		0.236 MG
10/14/09	450	0.5	408	90 gal/min	0.067 MG

7. Provide a description of the method of flow measurement or estimate.

Flow rate from 10/14/09 event was estimated from Manning's equations using the slope and depth method.

Total flow from both rain events was estimated using the runoff coefficient method.

EPA ID Number (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 014 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	7.90 mg/l	N/A	7.90 mg/l	N/A	1	
Biological Oxygen Demand (BOD5)	32 mg/l	14 mg/l	27 mg/l	14 mg/l	2	
Chemical Oxygen Demand (COD)	292 mg/l	227 mg/l	292 mg/l	227 mg/l	1	
Total Suspended Solids (TSS)	360 mg/l	486 mg/l	205 mg/l	486 mg/l	2	
Total Nitrogen	3.20 mg/l	2.35 mg/l	3.20 mg/l	2.35 mg/l	1	
Total Phosphorus	0.23 mg/l	0.17 mg/l	0.23 mg/l	0.17 mg/l	1	
pH	Minimum 6.83	Maximum 7.98	Minimum 6.83	Maximum 7.98	2	

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Copper, diss.	33 ug/l	N/A	17 ug/l	N/A	4	

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 014 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
11/24/08	180	0.75	216		0.020 MG
10/25/08	480	1.6	168		0.042 MG
2/11/09	50	0.25	312		0.007 MG
5/3/09	600	1.6	288		0.042 MG
8/5/09	120	0.2	120		0.005 MG
10/14/09	450	0.5	408	20 gal/min	0.013 MG

7. Provide a description of the method of flow measurement or estimate.

Flow rate for 10/14/09 event was estimated from Manning's equations using the slope and depth method.

Total flow from all rain events was estimated using the runoff coefficient method.

EPA ID Number (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (*if available*)	Maximum Values (*include units*)		Average Values (*include units*)		Number of Storm Events Sampled	Outfall 015 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	<5.00 mg/l	N/A	<5.00 mg/l	N/A	1	
Biological Oxygen Demand (BOD5)	21 mg/l	<6 mg/l	14 mg/l	<6 mg/l	2	
Chemical Oxygen Demand (COD)	85.5 mg/l	20.7 mg/l	85.5 mg/l	20.7 mg/l	1	
Total Suspended Solids (TSS)	74.7 mg/l	25.9 mg/l	74.7 mg/l	25.9 mg/l	1	
Total Nitrogen	5.12 mg/l	1.95 mg/l	5.12 mg/l	1.95 mg/l	1	
Total Phosphorus	0.22 mg/l	0.14 mg/l	0.22 mg/l	0.14 mg/l	1	
pH	Minimum 6.51	Maximum 6.51	Minimum 6.51	Maximum 6.51	1	

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (*if available*)	Maximum Values (*include units*)		Average Values (*include units*)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 015 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
3/25/09	180	0.25	240		0.083 MG
10/14/09	450	0.5	408	440 gal/min	0.167 MG

7. Provide a description of the method of flow measurement or estimate.

Flow rate from 10/14/09 event was estimated from Manning's equations using the slope and depth method.

Total flow from both rain events was estimated using the runoff coefficient method.

EPA ID Number (copy from Item 1 of Form 1)
VAD003113602

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 017 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	<5 mg/l	N/A	<5 mg/l	N/A	1	
Biological Oxygen Demand (BOD5)	7 mg/l	6 mg/l	6 mg/l	6 mg/l	2	
Chemical Oxygen Demand (COD)	154 mg/l	112 mg/l	154 mg/l	112 mg/l	1	
Total Suspended Solids (TSS)	405 mg/l	399 mg/l	221 mg/l	399 mg/l	2	
Total Nitrogen	3.45 mg/l	2.38 mg/l	3.45 mg/l	2.38 mg/l	1	
Total Phosphorus	0.19 mg/l	0.18 mg/l	0.19 mg/l	0.18 mg/l	1	
pH	Minimum 7.07	Maximum 7.07	Minimum 7.07	Maximum 7.07	1	

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Copper, diss.	<10 ug/l	N/A	<10 ug/l	N/A	4	

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 017 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
10/17/08	300	1.0	480		0.040 MG
2/11/09	50	0.25	312		0.010 MG
5/3/09	600	1.6	288		0.064 MG
8/5/09	120	0.2	120		0.008 MG
11/18/09	720	0.8	144	101 gal/min	0.032 MG

7. Provide a description of the method of flow measurement or estimate.

Flow rate from 11/18/09 event was estimated from Manning's equations using the slope and depth method.

Total flow from all rain events was estimated using the runoff coefficient method.

EPA ID Number (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Outfall 018

Pollutant and CAS Number (*if available*)	Maximum Values (*include units*)		Average Values (*include units*)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	<5.00 mg/l	N/A	<5.00 mg/l	N/A	1	
Biological Oxygen Demand (BOD5)	9 mg/l	6 mg/l	9 mg/l	6 mg/l	1	
Chemical Oxygen Demand (COD)	175 mg/l	88.8 mg/l	175 mg/l	88.8 mg/l	1	
Total Suspended Solids (TSS)	705 mg/l	278 mg/l	390 mg/l	278 mg/l	2	
Total Nitrogen	5.63 mg/l	2.42 mg/l	5.63 mg/l	2.42 mg/l	1	
Total Phosphorus	0.33 mg/l	0.17 mg/l	0.33 mg/l	0.17 mg/l	1	
pH	Minimum 6.35	Maximum 7.80	Minimum 6.35	Maximum 7.80	2	

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (*if available*)	Maximum Values (*include units*)		Average Values (*include units*)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Continue on Reverse

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 018 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
11/24/08	180	0.75	216		0.037 MG
10/14/09	450	0.5	408	10 gal/min	0.025 MG

7. Provide a description of the method of flow measurement or estimate.

Flow rate from 10/14/09 event was estimated from Manning's equations using the slope and depth method.

Total flow from both rain events was estimated using the runoff coefficient method.

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 021 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	<5.00 mg/l	N/A	<5.00 mg/l	N/A	1	
Biological Oxygen Demand (BOD5)	14 mg/l	11 mg/l	13 mg/l	11 mg/l	2	
Chemical Oxygen Demand (COD)	56.4 mg/l	58.8 mg/l	56.4 mg/l	58.8 mg/l	1	
Total Suspended Solids (TSS)	29.0 mg/l	26.7 mg/l	26.4 mg/l	26.7 mg/l	2	
Total Nitrogen	0.89 mg/l	2.47 mg/l	0.89 mg/l	2.47 mg/l	1	
Total Phosphorus	0.07 mg/l	0.14 mg/l	0.07 mg/l	0.14 mg/l	1	
pH	Minimum 6.93	Maximum 7.39	Minimum 6.93	Maximum 7.39	2	

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Zinc, diss.	159 ug/l	N/A	64 ug/l	N/A	4	

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 021 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
10/17/08	300	1.0	480		0.006 MG
2/11/09	50	0.25	312		0.002 MG
5/3/09	600	1.6	288		0.01 MG
8/23/09	180	1.2	288		0.007 MG
10/14/09	450	0.5	408	1.5 gal/min	0.003 MG

7. Provide a description of the method of flow measurement or estimate.

Flow rate from 10/14/09 event was estimated from Manning's equations using the slope and depth method.

Total flow from all rain events was estimated using the runoff coefficient method.

EPA ID Number (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 022 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	<5.00 mg/l	N/A	<5.00 mg/l	N/A	1	
Biological Oxygen Demand (BOD5)	<7 mg/l	<6 mg/l	<7 mg/l	<6 mg/l	1	
Chemical Oxygen Demand (COD)	45.5 mg/l	29.6 mg/l	45.5 mg/l	29.6 mg/l	1	
Total Suspended Solids (TSS)	59.4 mg/l	48.7 mg/l	37.7 mg/l	48.7 mg/l	2	
Total Nitrogen	1.60 mg/l	0.77 mg/l	1.60 mg/l	0.77 mg/l	1	
Total Phosphorus	0.22 mg/l	0.18 mg/l	0.22 mg/l	0.18 mg/l	1	
pH	Minimum 6.93	Maximum 6.93	Minimum 6.93	Maximum 6.93	1	

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Iron, tot. rec.	6.76 mg/l	N/A	6.76 mg/l	N/A	1	
Nitrate/Nitrite	7.94 mg/l	<0.05 mg/l	4.00 mg/l	<0.05 mg/l	2	

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 022 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
3/14/09	2880	1.75	552		0.485 MG
10/14/09	450	0.5	408	10 gal/min	0.138 MG

7. Provide a description of the method of flow measurement or estimate.

Flow rate from 10/14/09 event was estimated from Manning's equations using the slope and depth method.

Total flow from both rain events was estimated using the runoff coefficient method.

EPA ID Number (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 023 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	<5 mg/l	N/A	<5 mg/l	N/A	1	
Biological Oxygen Demand (BOD5)	8 mg/l	6 mg/l	8 mg/l	6 mg/l	1	
Chemical Oxygen Demand (COD)	87.6 mg/l	57 mg/l	77.8 mg/l	57 mg/l	2	
Total Suspended Solids (TSS)	428 mg/l	82.2 mg/l	173 mg/l	82.2 mg/l	3	
Total Nitrogen	4.79 mg/l	3.83 mg/l	4.79 mg/l	3.83 mg/l	1	
Total Phosphorus	0.74 mg/l	0.67 mg/l	0.74 mg/l	0.67 mg/l	1	
pH	Minimum 6.90	Maximum 6.90	Minimum 6.90	Maximum 6.90	1	

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Nitrate/Nitrite	0.99 mg/l	0.493 mg/l	0.93 mg/l	0.493 mg/l	2	
Iron, tot. rec.	8.38 mg/l	N/A	8.38 mg/l	N/A	1	

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 023 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
3/14/09	2880	1.75	552		0.043 MG
6/11/09	45	0.4	120		0.010 MG
11/18/09	720	0.8	144	23 gal/min	0.020 MG

7. Provide a description of the method of flow measurement or estimate.

Flow rate from 11/18/09 event was estimated from Manning's equations using the slope and depth method.

Total flow from all rain events was estimated using the runoff coefficient method.

EPA ID Number (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 025 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	<5.00 mg/l	N/A	<5.00 mg/l	N/A	1	
Biological Oxygen Demand (BOD5)	<7 mg/l	<6 mg/l	<7 mg/l	<6 mg/l	1	
Chemical Oxygen Demand (COD)	27.3 mg/l	27.3 mg/l	27.3 mg/l	27.3 mg/l	1	
Total Suspended Solids (TSS)	35.6 mg/l	39.0 mg/l	34.8 mg/l	39.0 mg/l	2	
Total Nitrogen	2.65 mg/l	2.41 mg/l	2.65 mg/l	2.41 mg/l	1	
Total Phosphorus	0.08 mg/l	0.09 mg/l	0.08 mg/l	0.09 mg/l	1	
pH	Minimum 7.10	Maximum 7.10	Minimum 7.10	Maximum 7.10	1	

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Iron, tot. rec.	1.14 mg/l	N/A	1.14 mg/l	N/A	1	

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 025 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
3/14/09	2880	1.75	552		0.238 MG
10/14/09	450	0.5	408	15 gal/min	0.068 MG

7. Provide a description of the method of flow measurement or estimate.

Flow rate for 10/14/09 event was estimated from Manning's equations using the slope and depth method.

Total flow from both rain events was estimated using the runoff coefficient method.

EPA ID Number (*copy from Item 1 of Form 1*)
VAD003113602

Form Approved. OMB No. 2040-0086
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VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 026 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	<5.00 mg/l	N/A	<5.00 mg/l	N/A	1	
Biological Oxygen Demand (BOD5)	<6 mg/l	<6 mg/l	<6 mg/l	<6 mg/l	1	
Chemical Oxygen Demand (COD)	29.6 mg/l	31.8 mg/l	29.6 mg/l	31.8 mg/l	1	
Total Suspended Solids (TSS)	14.0 mg/l	5.7 mg/l	11.0 mg/l	5.7 mg/l	2	
Total Nitrogen	1.60 mg/l	1.05 mg/l	1.60 mg/l	1.05 mg/l	1	
Total Phosphorus	0.05 mg/l	<0.05 mg/l	0.05 mg/l	<0.05 mg/l	1	
pH	Minimum 6.88	Maximum 6.88	Minimum 6.88	Maximum 6.88	1	

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Iron, tot. rec.	0.36 mg/l	N/A	0.36 mg/l	N/A	1	

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 026 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
3/14/09	2880	1.75	552		0.119 MG
10/14/09	450	0.5	408	28 gal/min	0.034 MG

7. Provide a description of the method of flow measurement or estimate.

Flow rate from 10/14/09 event was estimated from finding the geometry and velocity of the outfall channel and using the equation Q = Area x Velocity.

Total flow from both rain events was estimated using the runoff coefficient method.

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 028 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	<5.00 mg/l	N/A	<5.00 mg/l	N/A	1	
Biological Oxygen Demand (BOD5)	<7 mg/l	<6 mg/l	<7 mg/l	<6 mg/l	1	
Chemical Oxygen Demand (COD)	<20 mg/l	36.2 mg/l	<20 mg/l	36.2 mg/l	1	
Total Suspended Solids (TSS)	35.0 mg/l	41.2 mg/l	33.3 mg/l	41.2 mg/l	2	
Total Nitrogen	1.60 mg/l	1.33 mg/l	1.60 mg/l	1.33 mg/l	1	
Total Phosphorus	<0.05 mg/l	<0.05 mg/l	<0.05 mg/l	<0.05 mg/l	1	
pH	Minimum 6.72	Maximum 6.72	Minimum 6.72	Maximum 6.72	1	

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Iron, tot. rec.	17 mg/l	N/A	17 mg/l	N/A	1	

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Outfall 028 Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
3/14/09	2880	1.75	552		0.197 MG
10/14/09	450	0.5	408	42 gal/min	0.056 MG

7. Provide a description of the method of flow measurement or estimate.

Flow rate from 10/14/09 event was estimated from Manning's equations using the slope and depth method.

Total flow from both rain events was estimated using the runoff coefficient method.

Similar Outfalls for Form 2F:

The following outfalls are currently considered similar outfalls in our VPDES permit as Outfall 555:

Outfall 005 drains portions of the main road, parking areas, and the area adjacent to the mill supply water clarifier.

Outfalls 007, 009 and 010 drain portions of the main road and parking areas.

Outfall 013 drains the truck scales, a portion of the main road and parking areas.

Outfalls 010 and 013 are typically sampled for Outfall 555.

Appendix 1: Site Maps

Potential Pollutant Sources Identified on Plan Sheets:

(Corresponding numbers are on site map for locations.)

1. 1,000-gallon propane tank (Sheet 1)
2. Outdoor secondary fiber storage (Sheet 1)
3. Rail Loading Dock (Sheet 1)
4. Truck loading dock (Sheet 1)
5. High density pulp tank (Sheet 1)
6. Presstige Tank (Sheet 1)
7. Defoamer (Sheet 1)
8. Alum Tank (Sheet 1)
9. Boiler condensate tank (Sheet 1)
10. Salt (Sheet 1)
11. Sodium carbonate tank (Sheet 1)
12. 50% Caustic (Sheet 1)
13. Strong black liquor tank (Sheet 1)
14. Green Liquor tank (Sheet 1)
15. Green/black liquor tank (Sheet 1)
16. White liquor (Sheet 1)
17. Surge Tank (Sheet 1)
18. Lube Oil storage, unloading area, used oil storage (Sheet 1)
19. Liquor tank at recovery boiler (Sheet 1)
20. Liquor tank at recovery boiler (Sheet 1)
21. Liquor tank at recovery boiler (Sheet 1)
22. Coal Pile (Sheet 1)

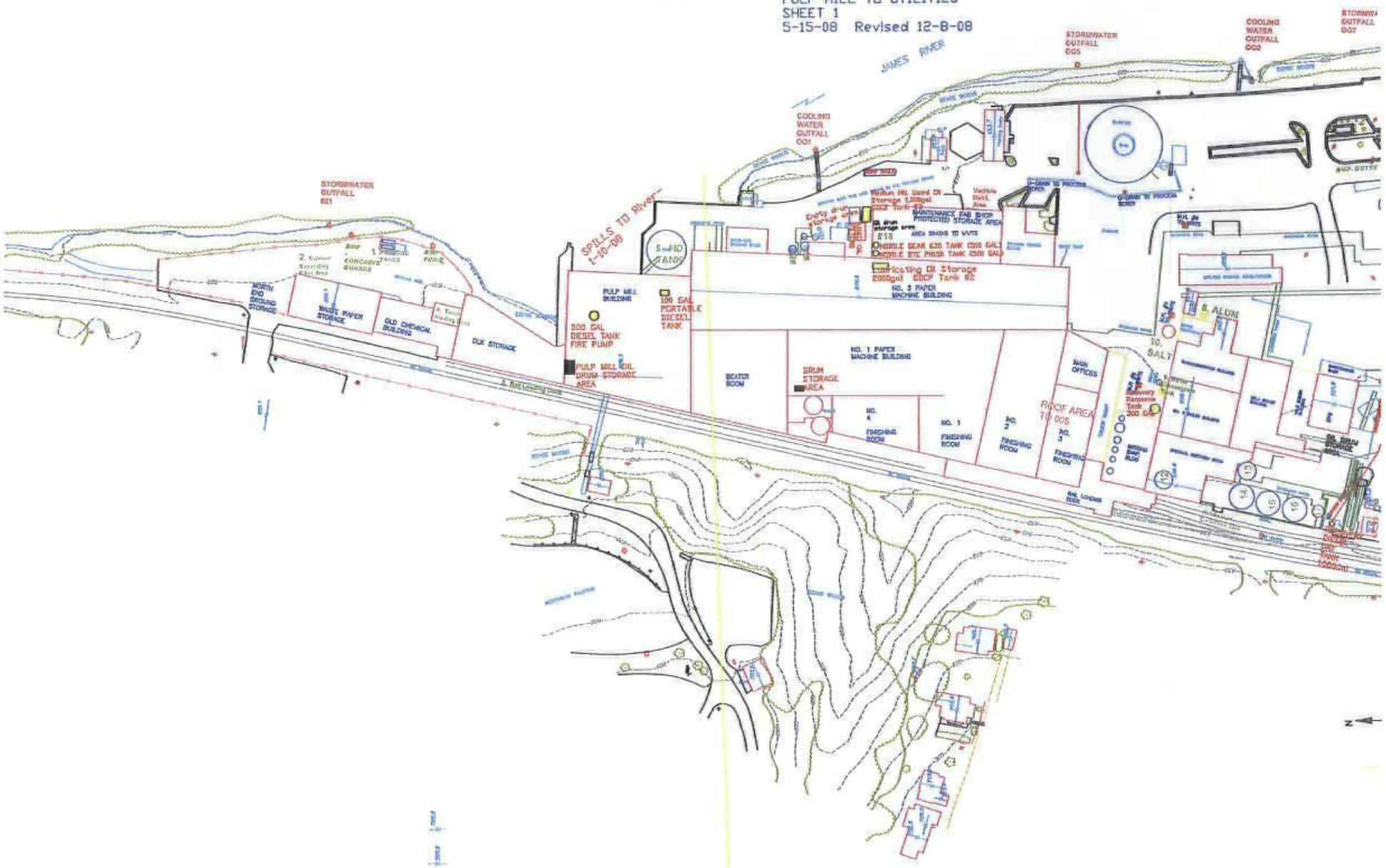
23.	Sawdust/chip pile	(Sheet 1)
24.	Contractor/fabrication building	(Sheet 2)
25.	OCC Pad addition	(Sheet 2)
26.	Dump chest	(Sheet 2)
27.	Alum	(Sheet 2)
28.	Sizing Prequel 2000	(Sheet 2)
29.	Sodium Hydroxide 50%	(Sheet 2)
30.	Starch	(Sheet 2)
31.	HD Chest	(Sheet 2)
32.	Broke Chest	(Sheet 2)
33.	Defoamer	(Sheet 2)
34.	Prequel	(Sheet 2)
35.	Hercobond	(Sheet 2)
36.	LD Chest	(Sheet 2)
37.	Excess clear WW Chest	(Sheet 2)
38.	Used Oil Tank	(Sheet 2)
39.	Kerosene Tank	(Sheet 2)
40.	Gasoline Tank (AST)	(Sheet 2)
41.	Diesel Tank (AST)	(Sheet 2)
42.	Propane Tank	(Sheet 2)
43.	Nutrient Tank	(Sheet 3)
44.	Fuel Oil Storage Tank	(Sheet 3)
45.	Fuel Oil Unloading Area	(Sheet 3)
46.	Sanitary WWTP	(Sheet 3)
47.	Propane Tank	(Sheet 3)

Appendix 1: Site Maps

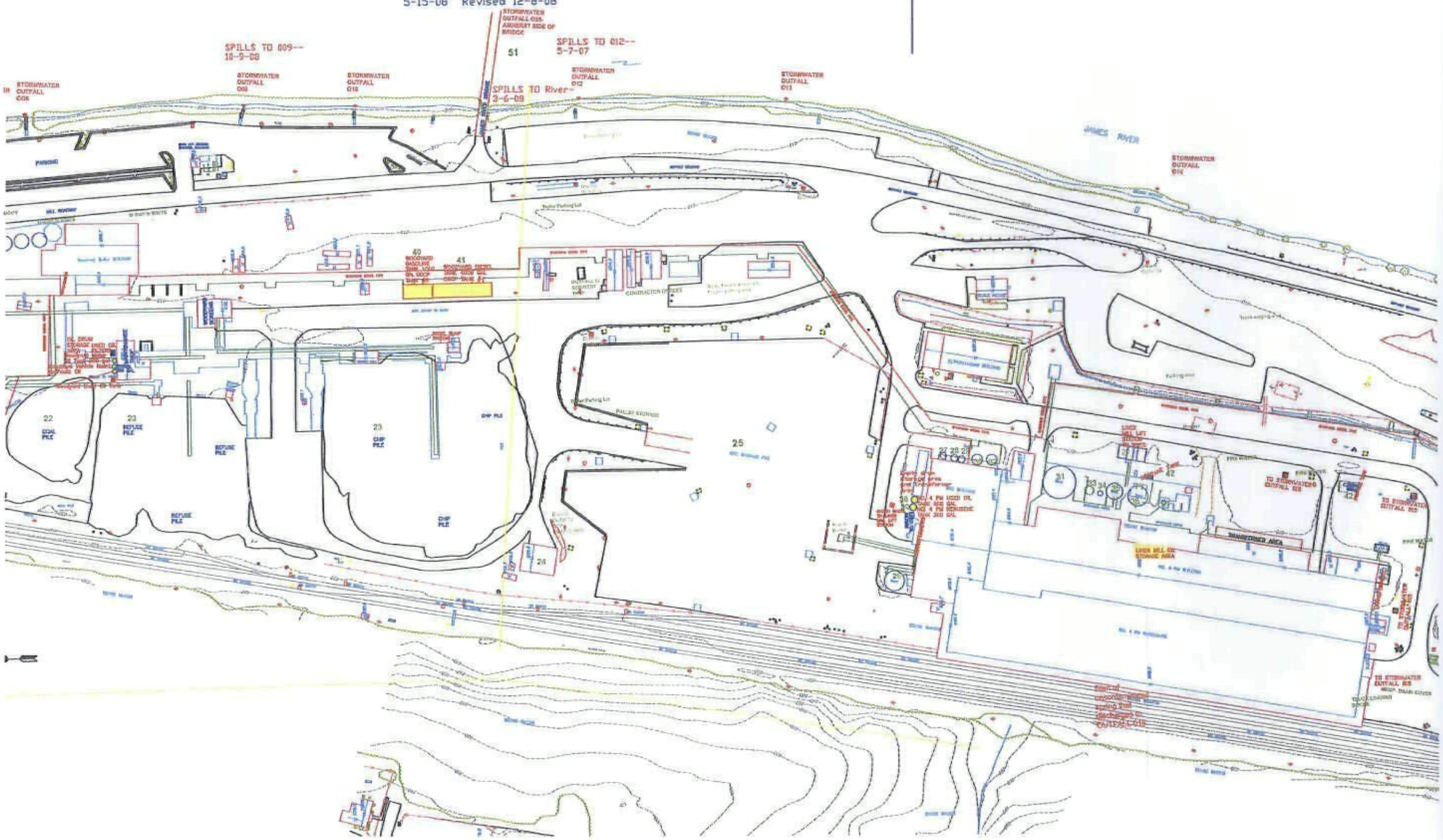
48.	Calcium Nitrate	(Sheet 3)
49.	Trailer Storage	(Sheet 3)
50.	Amherst Landfill	Amherst Landfill Topo
51.	Haul Road to Amherst Landfill	(Sheet 2)
50.	Bedford Landfill	Bedford Landfill Topo
53.	Sludge dewatering lagoons	Sludge Press Topo
54.	Lime Storage Tank	Sludge Press Topo
55.	Sludge storage tank	Sludge Press Topo

STORMWATER SITE MAP
*LOCATION OF BMP'S
2. LOCATION OF POTENTIAL POLLUTANT SOURCE
3. LOCATION OF STORMWATER OUTFALL & OUTLINE
4. LOCATIONS OF WHERE SPILLS OR LEAKS HAVE OCCURRED

PULP MILL TO UTILITIES
SHEET 1
5-15-08 Revised 12-8-08

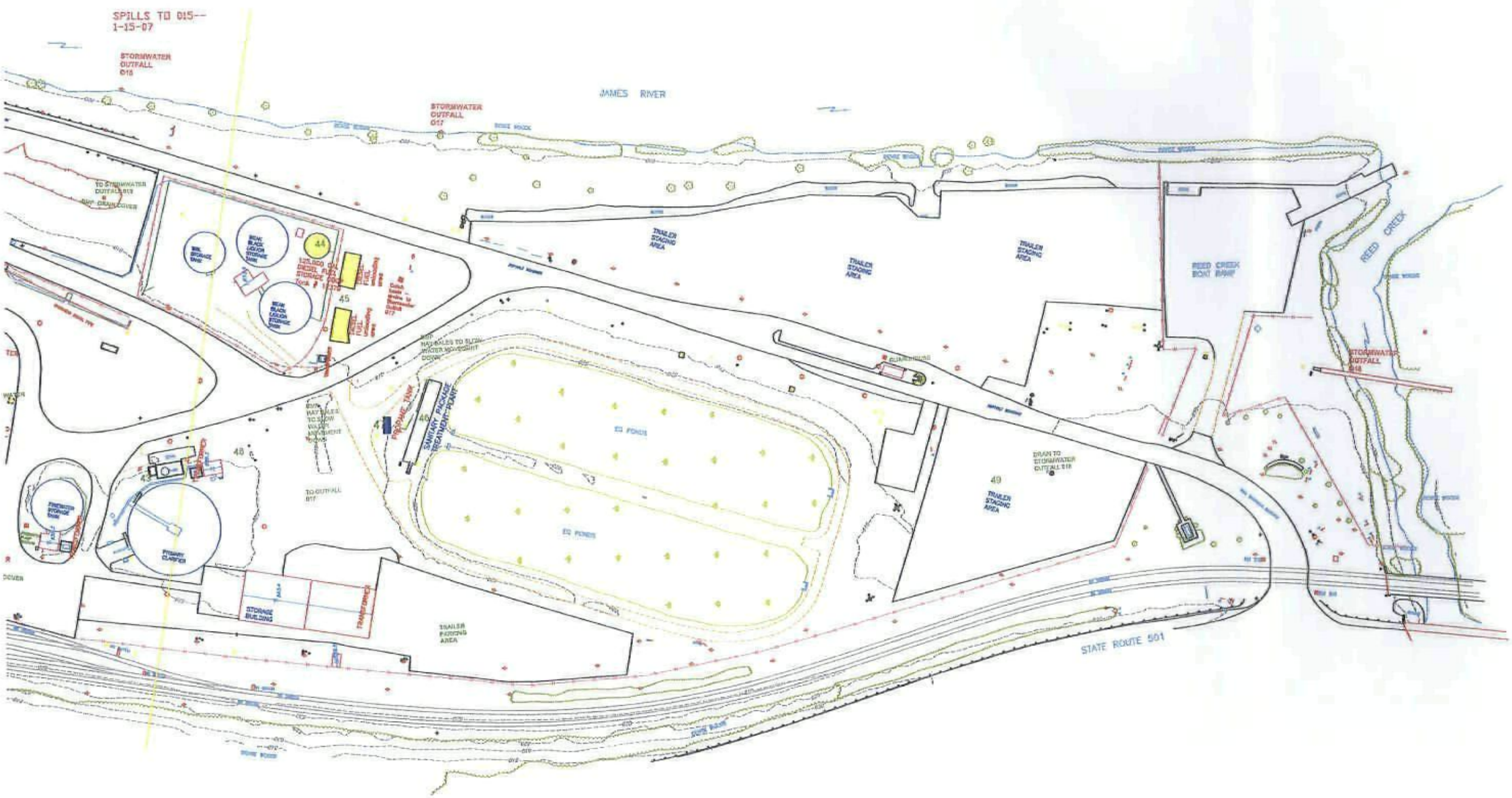


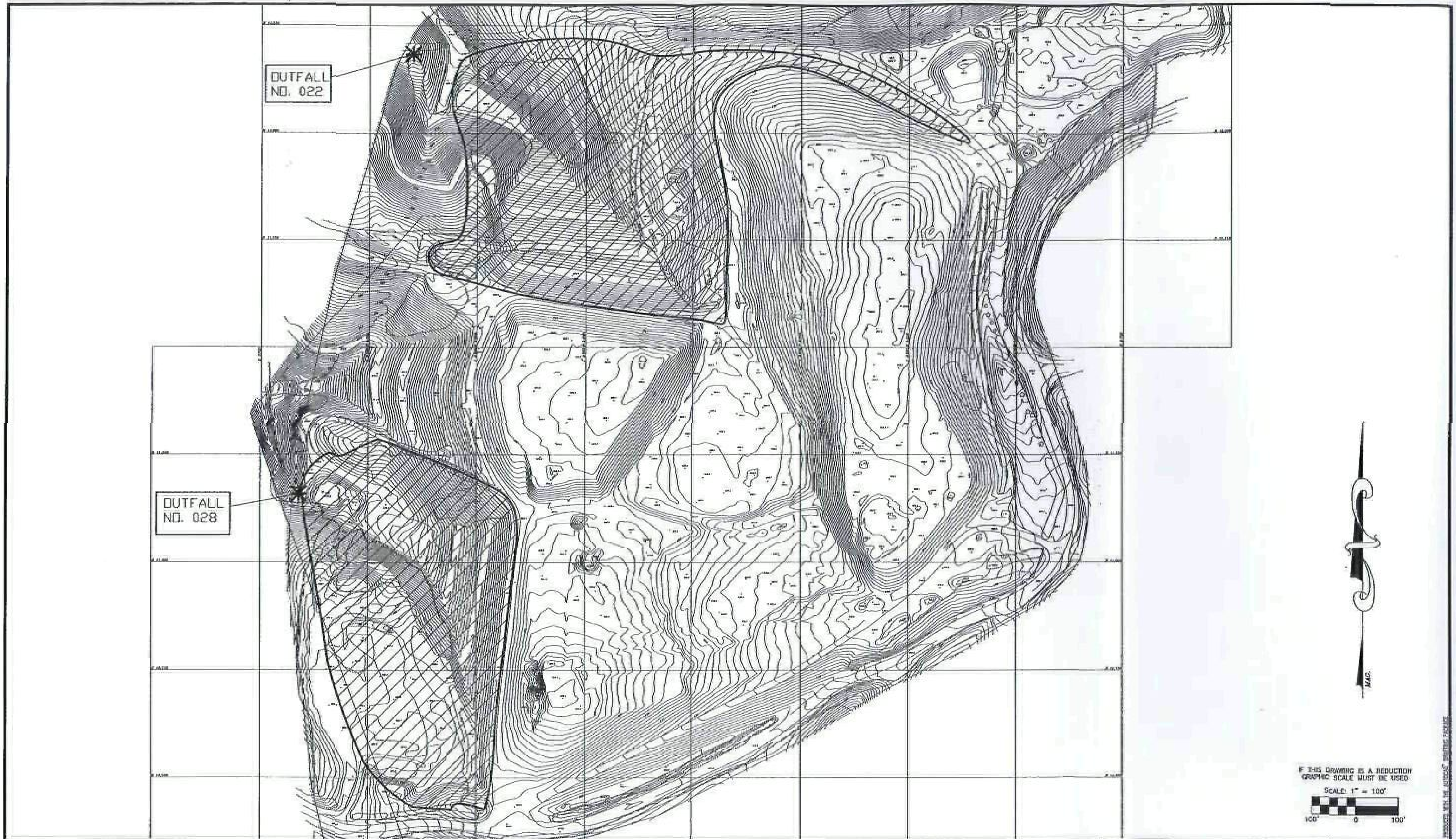
STORMWATER SITE MAP
*LOCATION OF BMP'S
2. LOCATION OF POTENTIAL POLLUTANT SOURCE
3. LOCATION OF STORMWATER OUTFALL & OUTLINE
4. LOCATIONS OF WHERE SPILLS OR LEAKS HAVE Occurred
SHEET 2
WOODYARD TO LINERMILL
5-15-08 Revised 12-8-08



STORMWATER SITE MAP
*LOCATION OF BMP'S
2. LOCATION OF POTENTIAL POLLUTANT SOURCE
3. LOCATION OF STORMWATER OUTFALL & OUTLINE
4. LOCATIONS OF WHERE SPILLS OR LEAKS HAVE OCCURRED

SHEET 3
TANK FARM TO MILL ENTRANCE
5-15-08 Revised 12-8-08





DWG. NO.	REFERENCE	DWG. NO.	REFERENCE

NO.	DATE	BY	DESCRIPTION

REVISIONS

NO.	DATE	BY	DESCRIPTION

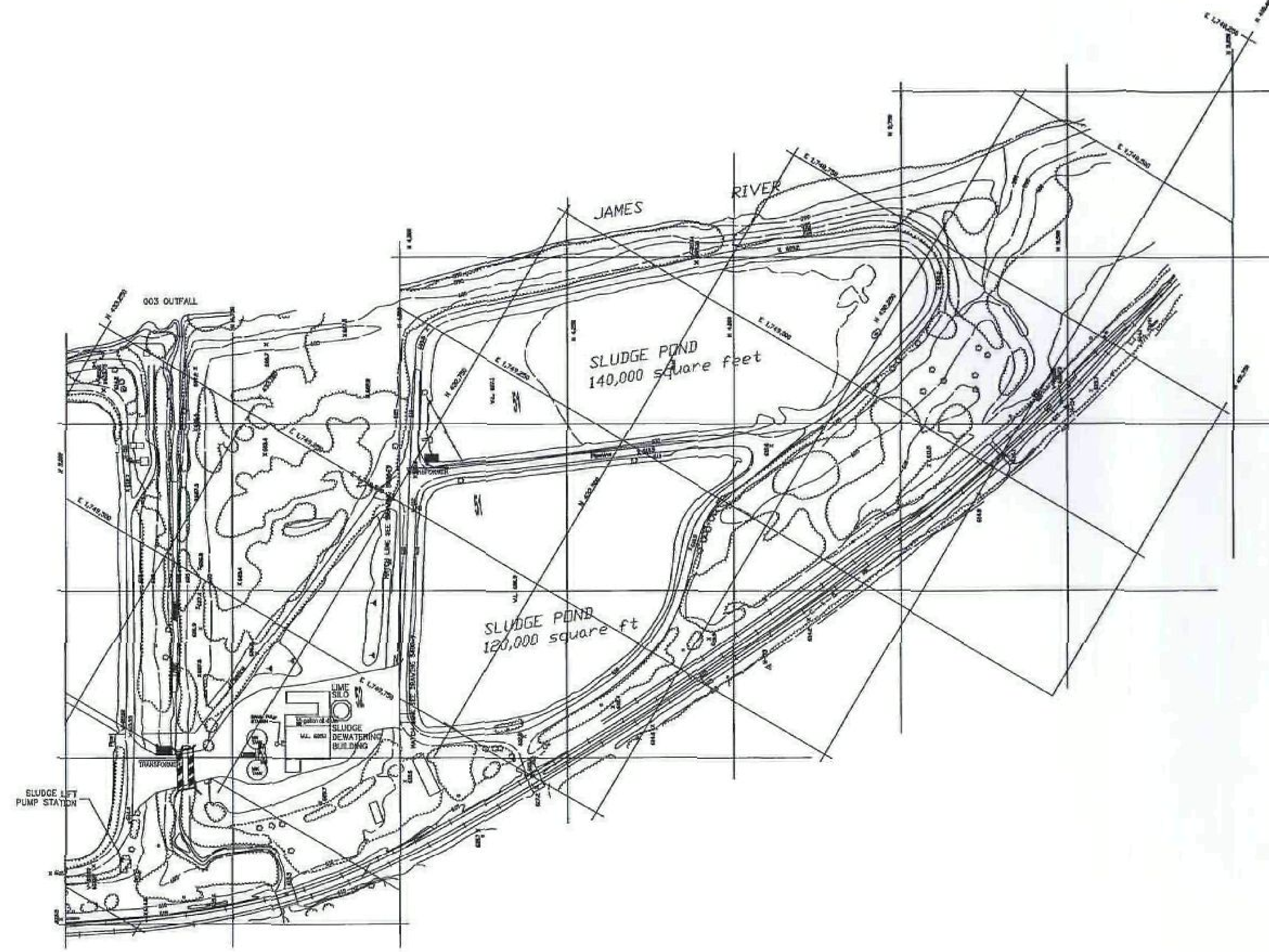
REVISIONS

EQUIPMENT NO.				
PROJECT REF.	SCALE 1"=200'	DATE 3/23/06	DRAWN BY SWB	CHK'D BY J.P.M.

Georgia-Pacific
Containerboard and Packaging Division
Big Island, Virginia

LANDFILL
OUTFALL MAPPING

DEPT. NO.		DRAWING NO.	REV. NO.	TYPE
	SHT 1 OF 1	205159	0	P



4/20/2006

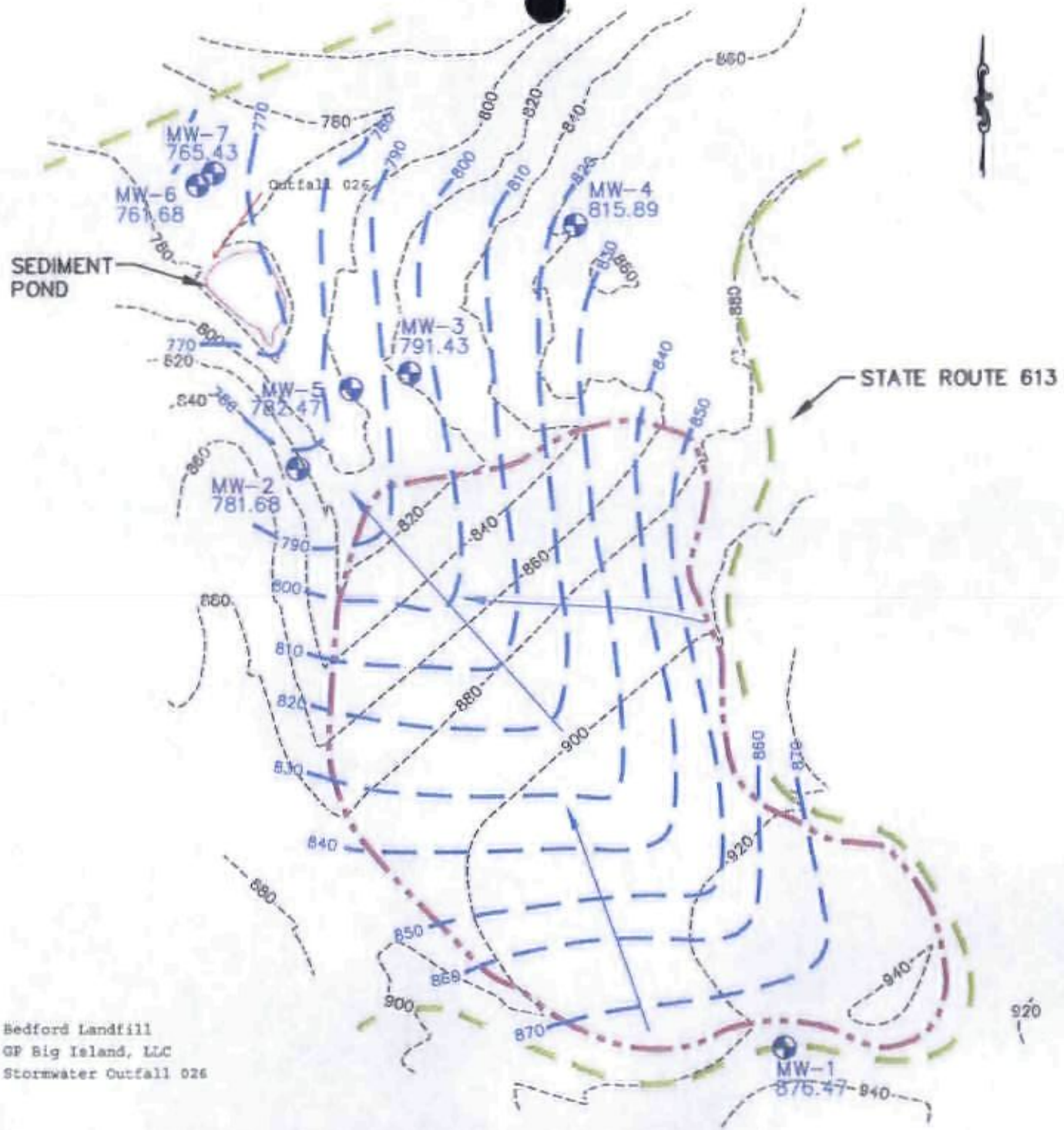
Georgia-Pacific
BIG ISLAND
BIG ISLAND, VIRGINIA

DATE 4/20/2006
SCALE 1:100
DRAWN Dsprodl
CAD FILENAME 9910001-7.dwg

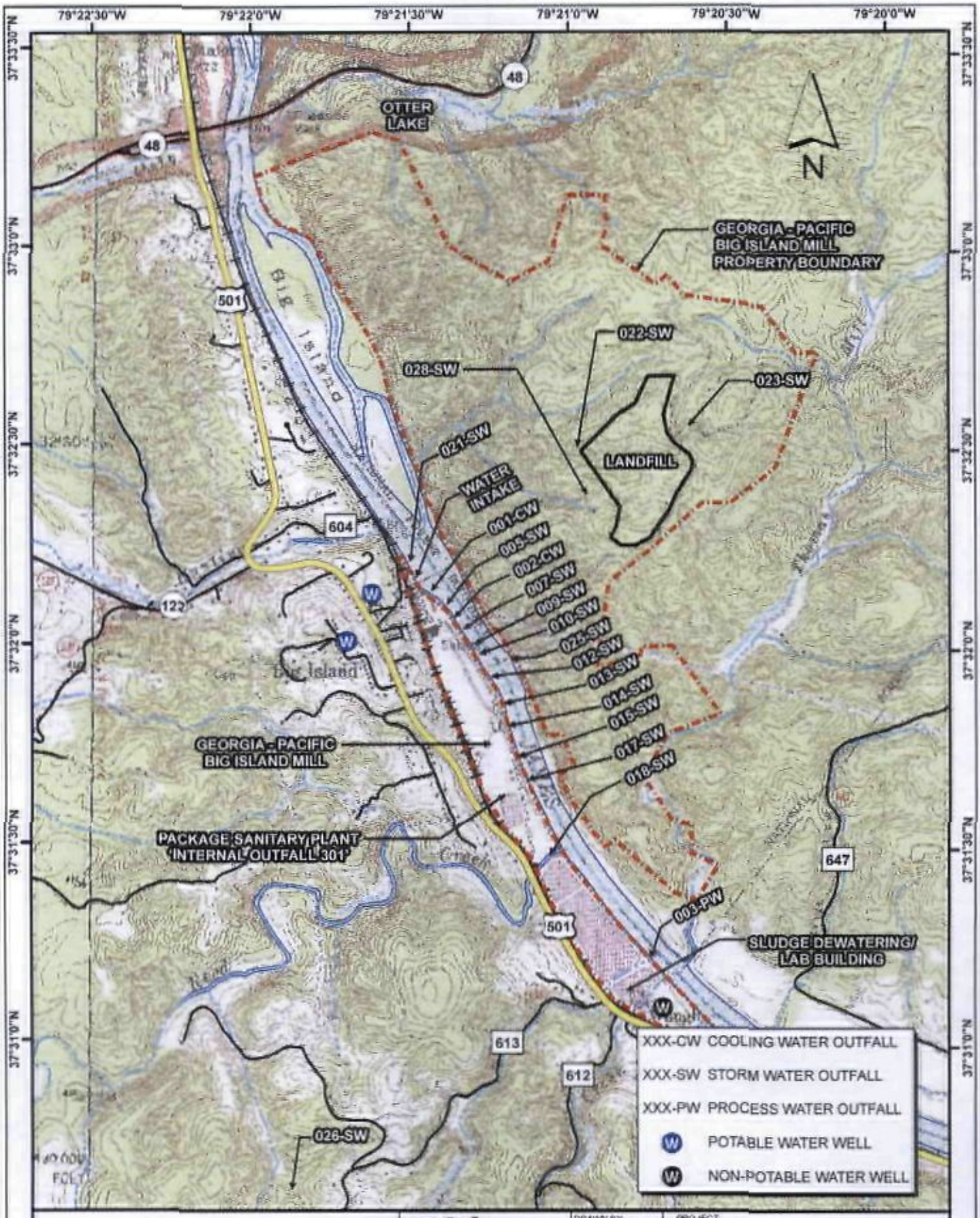
GEORGIA PACIFIC MILL TOPO
POLISHING POND - SLUDGE PRESS
& SLUDGE PONDS

99-T-009-001-7

REV. 1



Bedford Landfill
GP Big Island, LLC
Stormwater Outfall 026



IF THIS DRAWING IS A REDUCTION
GRAPHIC SCALE MUST BE USED

U.S. Geological Survey. 1:24,000. 7.5 Minute Series

2,000 0 2,000 Feet

WW ENGINEERS SURVEYORS PLANNERS ASSOCIATES

DRAWN BY: CLP	PROJECT: GEORGIA - PACIFIC BIG ISLAND PAPER MILL
REVIEWED BY: HFW	
FILE NAME: USGSMap.mxd	TITLE: GP – OUTFALLS
PROJECT NUMBER: 209078.00	Scale: 1" = 2,000 FT / Date: 11/17/09 / Figure: 3 - 1

Attachment A to Form 2F
GP BIG ISLAND, LLC
Drainage Areas and Control Measures

OUTFALL	TOTAL DRAINED AREA (sq. ft.)	(acres)	IMPERVIOUS SURFACE AREA RC = 0.9 (sq. ft.)	(acres)	LIGHT INDUSTRIAL SURFACE AREA RC = 0.5 (sq. ft.)	(acres)	LIGHT INDUSTRIAL SURFACE AREA RC = 0.7 (sq. ft.)	(acres)	ESTIMATED RUNOFF COEFFICIENT FOR TOTAL DRAINED AREA	STRUCTURAL AND NON-S CONTROL MEASU
005	18,620	0.427	18,620	0.427	0	0.000	0	0.000	0.9	Good Housekeeping & BMP/No str
007	37,110	0.852	37,110	0.852	0	0.000	0	0.000	0.9	Good Housekeeping & BMP/No str
008	N/A 100% off-site		N/A 100% off-site		N/A 100% off-site		N/A 100% off-site		N/A 100% off-site	N/A 100% off-site
009	71,842	1.649	71,842	1.649	0	0.000	0	0.000	0.9	Good Housekeeping & BMP/No str
010	37,648	0.864	37,648	0.864	0	0.000	0	0.000	0.9	Good Housekeeping & BMP/No str
012	308,515	7.083	0	0.000	0	0.000	308,515	7.083	0.7	Good Housekeeping & BMP/Sedim
013	109,850	2.522	109,850	2.522	0	0.000	0	0.000	0.9	Good Housekeeping & BMP/No str
014	46,626	1.070	46,626	1.070	0	0.000	0	0.000	0.9	Good Housekeeping & BMP/No str
015	693,833	15.928	468,803	10.762	225,030	5.166	0	0.000	0.77	Good Housekeeping & BMP/No str
017	129,227	2.967	0	0.000	129,227	2.967	0	0.000	0.5	Good Housekeeping & BMP/No str
018	120,152	2.758	46,868	1.076	73,284	1.682	0	0.000	0.66	Good Housekeeping & BMP/No str
021	11,109	0.255	11,109	0.255	0	0.000	0	0.000	0.9	Good Housekeeping & BMP/Sedim
022	888,624	20.400	0	0.000	888,624	20.400	0	0.000	0.5	Good Housekeeping & BMP/Sedim
023	78,408	1.800	0	0.000	78,408	1.800	0	0.000	0.5	Good Housekeeping & BMP/No str
025	435,600	10.000	0	0.000	435,600	10.000	0	0.000	0.5	Good Housekeeping & BMP/No str
026	217,800	5.000	0	0.000	217,800	5.000	0	0.000	0.5	Good Housekeeping & BMP/Sedim
028	360,488	8.276	0	0.000	360,488	8.276	0	0.000	0.5	Good Housekeeping & BMP/Sedim

Based on EPA's NPDES Storm Water Sampling Guidance Document; July 1992.

Information on this sheet to satisfy Part IV(A) and Part IV(C) of Form 2F

Attachment B to Form 2F, Section VI

Worksheet 1 List of Significant Spills and Leaks				Completed by: Tim Pierce Title: EHS Manager Revision Date: November, 2009					
Directions: Record below all significant spills and leaks of toxic or hazardous pollutants that have occurred at the facility in the last 3 years. Definitions: Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of reportable quantities.									
Date (m/d/y)	Check One or Both		Location (as indicated on site map)	Type of Material	Quantity (Estimate)	Source	Reason	Amount of material Recovered	Is material still exposed to stormwater ?	Preventative measures taken *
	Spill	Leak								
1-15-07		x	Outfall 015	Sanitary wastewater	28,000	Sanitary sewer line	Break in pipe at joint		No	Repaired line
5-7-07		x	Outfall 012	Sanitary wastewater	20,000	Sanitary sewer line	Failure of coupling		No	Repaired line, investigating new line
5-16-07	X		Truck parking lot/old boat ramp	Supernate /sludge	200	Primary Sludge Line	Failure of pipe		No	Replaced entire line
1-10-08	X		Pulp Mill Area	Oil	20	Digester defibrator hydraulic unit	Leak in piping		No	Repaired impared pipeing
3-6-08	X		Landfill Bridge	Leachate	1500 gal	Air Vent on piping	Failure of air vent		No	Removed air vents on both side of bridge
10-9-08	X		Outfall 009	Process Water	400 gal	Main Lift Station	Mill supply water line draining during power outage		No	Improve procedures during next annual outage.
12-28-08	X		Outfall 012, 015	Process Water	1800 gal	Liner Lift Station	Pumps were plugged		No	Unplugged pumps, improvements to PM's of pumps
7-29-09	X		Outfall 007	Process Water	Unknown	Utilities Sewer	Heavy rains and pump control issue		No	Upgrade controls and improve PM's of pumps

Appendix 2: Description of Potential Pollutant Sources & BMPs

Drainage

Site maps have been updated and are attached in Appendix 1.

Sheets 1-3 have appropriate outfall numbers attached to the network of pipes that convey stormwater. Drainage boundary divisions on drawing number 50G0211 indicate a prediction of the direction of flow at the facility.

A list of potential pollutant sources identified on the site maps is included with the maps in Appendix 1. A more complete description of possible pollutants is included in the following Summary of Potential Pollutant Sources.

Inventory of Exposed Materials

The following is a brief description of the types of materials handled at the site that may be exposed to stormwater:

The coal pile is located adjacent to and south of the plant. It covers an area of approximately 0.5 acre. Runoff from the coal pile discharges to the Mill Wastewater Treatment Plant (WWTP).

The sawdust and chip piles are located adjacent to and south of the coal pile. These piles cover approximately 3.5 acres. Runoff from the sawdust and chip piles discharges to the Mill WWTP. For most rainfall events, water is contained under the pile due to the slope of the ground under the sawdust. Bark and debris from the piles could be present in the stormwater runoff for large rainfall events. No chemicals are added or applied to the stored sawdust. There is a wood

retaining wall that controls the possible runoff of sawdust between the sawdust pile and the maintenance shop. Any runoff that escapes the wall would be intercepted by Drop Inlet #2 and carried to the Utilities Lift Station. There is a potential for Outfall 009 to discharge overflow from the Utilities Lift Station and the woodyard when a high intensity storm event occurs.

The original OCC pad, which was constructed with the OCC building project in 1996, drains stormwater runoff to the No. 4 (Linerboard Mill) Lift Station for conveyance to the WWTP. An addition to the OCC pad, built in the summer of 1998, is adjacent to and south of the chip pile and covers an area of approximately 1.9 acres. The stormwater from the OCC pad addition flows through a sediment trap to remove any floating debris before it reaches Outfall 012.

Secondary fiber, known as Double Lined Kraft (DLK) clippings, is used as a fiber source to supplement secondary fiber from the OCC operation for the medium machines. The DLK is received in bales via trucks and railroad cars. The material is unloaded and stored at the north end of the plant. Stormwater from the rail unloading dock and the northern section of the outdoor storage area discharges to the river via sheet flow. Stormwater from the truck unloading dock and the southern section of the outdoor storage area flows to the river via Outfall 021. A sediment trap with a submerged, baffled discharge is provided to remove paper scraps from the stormwater runoff prior to entering Outfall 021. The area's scrap paper is routinely picked up to minimize debris (see attached BMP).

The Amherst landfill, shown on site maps in Appendix 1, is located east of the Mill

and is currently in operation. Waste is hauled from the Mill in dump trucks. All precipitation that falls in open cells is captured and the leachate is conveyed and treated in the Mill WWTP. Sediment basins at the landfill are used to trap sediment from stormwater runoff from areas adjacent to the landfill cells at Outfall 022 and Outfall 028. The sediment basins are cleaned as required to maintain storage capacity and sediment trapping capability.

Summary of Potential Pollutant Sources

In this section, storage tanks, chemical unloading areas, storage piles, wastewater treatment systems, and piping are identified and discussed with regard to their potential to release regulated and/or hazardous materials. Material flow that would occur in the event of a catastrophic spill or failure has been identified. Finally, the impact of these spilled materials on the wastewater treatment system is discussed. A list of potential pollutant materials can be found in Appendix 1.

Process Chemical Unloading Areas

There are five process areas of the Mill where process chemicals are unloaded (Recovery Plant, Medium Mill, Power House, Wastewater Treatment and Linerboard Mill). The means and location of delivery and specific steps taken to minimize spill potential during unloading operations are discussed in the following sections. Chemical unloading areas are summarized in Table 3-1.

1. Chemical Rail Car Unloading - Recovery Area - (Sheet 1)

   Caustic soda is typically received by rail as a 50% solution. Rail cars are

unloaded at the rail siding adjacent to the Recovery Plant. Caustic soda is unloaded by pump from the top of the rail car. Pumping minimizes the likelihood of inadvertently draining the rail car. Unloading hose leakage is the most likely source of potential spills.

Sodium carbonate, or soda ash, is received by rail as a powder. Soda ash is unloaded by means of dumping directly into a sluice pit. This is located within a diked area that drains to the wastewater treatment system. As soda ash unloading procedures require continuous operator attention, potential spill quantities are minimal.

2. Chemical Truck Unloading - Power House (Sheet 1)

The truck unloading areas for caustic and water treatment chemicals (mainly polymer, alum and salt) are located so that a spill from this area will go to the wastewater treatment system via the catch basins located near the northeast corner of the Water Treatment Plant and the containment trench on the track-side of the water clarifier.

The largest spill that could possibly occur would be a loss of a caustic tank truck. All spills in this area would be captured by the process sewer.

3. Chemical Truck Unloading - Medium Mill – (Sheet 1)

The Medium Mill and Pulp Mill chemical additives unloading area is located in a paved area in the No. 3 Paper Machine Courtyard. All unloading lines are locked and equipped with shutoff valves and check

valves. Receiving or Storeroom personnel unlock the unloading line covers and direct the drivers where to unload their shipments. Unloading lines discharge into the top of storage tanks so there is no possibility of inadvertently draining the tanks. A potential for spilling during unloading operations arises from overfilling a tank or a rupture in the unloading line. The possibility of overfilling an additive tank is minimized by inventory control. All Medium Mill additive storage tanks are located in areas drained by process sewers. Chemical spills during unloading operations resulting from unloading line ruptures would be captured in containment berms or go to a process sewer catch basin located in the courtyard area. Drivers are required to stay with their vehicles during unloading activities so that they may immediately stop unloading should that be necessary.

4. Chemical Truck Unloading - Linerboard Mill – (Sheet 2)

The Linerboard Mill bulk chemical additives are unloaded in the additives area alleyway and unloading area on the riverside of the additives tank farm. The alleyway is paved, and the additive tanks are contained within an area that is paved and surrounded by a concrete berm. All unloading lines are locked and equipped with shutoff valves and check valves. Linerboard Mill personnel direct the drivers where to unload their shipments. Unloading lines go into the top of storage tanks so there is no danger of draining the tanks through the unloading lines. The potential for spilling during unloading operations arises from overfilling a tank or having an unloading line rupture. The possibility of overfilling an additive tank is minimized by inventory control. A chemical spill resulting from an

unloading line rupture would be contained or go to a process sewer catch basin located in the area. Drivers are required to stay with their vehicles during unloading activities so that they may immediately stop unloading if necessary.

Linerboard Mill chemical additives that are received by tote bin are unloaded at the southeast corner door and moved inside to No. 4 Paper Machine basement for storage. Any leaks from totes as they are stored in this location would drain to the process sewer. Empty totes are stored outside prior to return to the vendor.

5. Chemical Truck Unloading – Wastewater Treatment

The wastewater treatment nutrient solution (a nitrogen/phosphorus blend) is unloaded on a designated concrete pad located adjacent to the nutrient storage tank near the primary clarifier. The unloading line is locked and equipped with a shutoff valve. The pad is sloped such that a spill will be captured and diverted to a containment area sump. After capture, this material can be pumped to the wastewater treatment system in a controlled manner. The unloading line goes into the top of the storage tank so there is no danger of draining the tank through the unloading line. The potential for spilling during unloading operations arises from overfilling a tank or a rupture in the unloading line. The possibility of overfilling the tank is minimized by inventory control. Also unloaded in this same area is calcium nitrate that is used on a periodic basis for odor control in the equalization basins. The unloading line goes into the top of

the tank so there is no potential of draining the tank through the unloading line. The possibility of overfilling the tank is minimized by inventory control.

Polymer for dewatering wastewater sludge is received in bulk and unloaded at the sludge press building. The unloading line goes into the top of storage tank so there is no potential of draining the tank through the unloading line. The potential for spilling during unloading operations arises from overfilling a tank or a rupture in the unloading line. The possibility of overfilling the tank is minimized by inventory control. Any spillage that occurs during unloading would be captured by the process sewer.

Oil unloading has been addressed under the facility Spill Prevention, Control, and Countermeasures (SPCC) Plan. The potential hazards and countermeasures specified in the SPCC Plan are still applicable at this time.

Internal Vessels

If a failure of storage tanks and process vessels that are within the plant buildings or diked areas occurred, the material would be discharged to the mills wastewater treatment plant.

SPCC Regulated Tanks

Tanks that contain oil and other materials regulated under part 112, Subchapter D, Chapter 1 Title 40, CFR have been addressed under the facilities SPCC Plan.

Appendix 2: Description of Potential Pollutant Sources & BMPs

The potential hazards and countermeasures specified in the SPCC Plan are still applicable at this time.

Outside Vessels

Process chemicals are stored in tanks that are outside production buildings in the following areas: 1) Black Liquor/Fuel Oil Tank Farm, 2) Recovery Area Tank Farm, 3) Water Treatment Area, 4) No. 3 Paper Machine Courtyard area (which extends from the Maintenance Fabrication Shop to the river dike wall) 5) Linerboard Mill Tank Farm, and 6) WWTP Chemical Storage Area at the Primary Clarifier.

1. Black Liquor/Fuel Oil Tank Farm

   Four (4) tanks are located north of the WWTP equalization basins within an earthen dike with sufficient area to hold the contents of the largest tank. Three tanks contain weak black liquor, (2 @ 900,000 gallons and 1 @ 588,000 gallons) and the fourth tank contains No. 2 low sulfur fuel oil (125,000 gallons). Storm water that collects within this area is pumped to the equalization basin inlet structure.

2. Recovery Area Tank Farm

   A total of eight (8) tanks are located between the railroad tracks and the power/recovery building. The tanks are of various sizes from 1,000 to 150,000 gallons and contain soda ash, green liquor, black liquor, and fuel oil. The area around the tanks is concrete, with a concrete retaining wall on the west or trackside of the tank farm area. Three of the tanks have small,

6 inch high curbs. The area around the tanks is sloped to an open trench sewer. Major spills that exceed the capacity of the trench would drain to the east into the Power House basement, and south to the coal pile area. Both areas drain to the WWTP.

3. Water Treatment Area

There is an alum tank on the northeast corner of the water treatment area. Spills and leaks from these tanks would drain to a process sewer.

4. No. 3 Paper Machine Courtyard

This area has four tanks: two process (H-D Stock Chest and Save-All Tank) and two chemical (Wet Strength Storage Tank and Felt Cleaner Storage Tank). Spills and overflows from these tanks would be collected in process sewer catch basins that drain to the WWTP. This area also contains the unloading area for the Medium Mill chemical additives, storage for chemical additives in tote bins, and storage for used oil.

5. Linerboard Mill Tank Farm

This area has a total of ten (10) tanks, four chemical (caustic, alum, size, defoamer) and six process (broke, high density pulp, low density pulp, white water, reclaimed water, and dump chest). All but the dump chest are located on the northeast corner of the Linerboard Mill complex. The dump chest is located on the northwest corner. Spills and overflows from these tanks would be contained within the concrete containment, which surround each of the tanks. Unusually large stock spills could exceed the

containment capacity and be released to the process sewer.

6. WWTP Chemical Storage Area at Primary Clarifier

This area has one, 6,000-gallon tank storing a nutrient solution for the WWTP that is contained in a concrete structure. This structure drains to the WWTP. A separate phosphoric acid solution tank may be added in the future as a part of the Mill's nutrient discharge reduction plan. There is also a temporary calcium nitrate tank located adjacent to the primary clarifier for use in odor control. Any spills or leakage from this tank would be collected in the temporary plastic lined containment structure constructed for this purpose. A catastrophic failure of the tank would likely result in material being released to stormwater Outfall 017.

Table 3-2 contains a listing of the outside storage tanks

Outside Storage Piles

There are six (6) types of materials stored in outside storage piles: 1) DLK Clippings, 2) OCC/Mixed Office Waste, 3) Chips and Wood Refuse, 4) Coal, 5) OCC Rejects, and 6) Wastewater Sludge. Specific steps taken to minimize the potential release of pollutants to the environment are discussed in the following sections.

1. DLK Clippings Bale Storage Area (Sheet 1)

Recovered fiber (pre-consumer waste) known as Double Lined Kraft (DLK) clippings are used as a fiber source to make up to 25 percent of the furnish

provided to No 1 and No. 3 Paper Machines when OCC fiber is unavailable. DLK is received in bales via truck or rail. The material is unloaded and stored at the north end of the Pulp Mill. Litter from handling the paper bales accumulates along the railroad tracks and truck unloading area at the north end of the Mill. Storm water from the rail unloading dock and the northern section of the outdoor storage area discharges to the river via sheet flow. Storm water from the truck unloading dock and the southern section of the outdoor storage area flows to the river via Outfall 021. A catch basin with a submerged, baffled discharge is provided to remove paper scraps from the stormwater runoff prior to Outfall 021. The outdoor storage area has a chain link fence and concrete barrier to help contain paper scraps. The area is managed to minimize accumulations of debris: scrap paper is routinely picked up from the area.

2. OCC / Mixed Office Waste Bale Storage Area

Old Corrugated Container furnish (OCC) is received in bales via truck or rail. OCC is stored in the Linerboard Mill or on an 8-acre paved outdoor storage area north of the Linerboard Mill. The original OCC pad, which was constructed in 1996, drains stormwater runoff to the OCC/liner lift station for conveyance to the WWTP. The OCC pad addition, built in the summer of 1998, is adjacent to and south of the chip pile and covers an area of approximately 1.9 acres. The stormwater from the OCC pad addition flows through a sediment trap to remove any floating debris before it reaches Outfall 012.

3. Chip and Wood Refuse Piles

The sawdust and chip piles are located adjacent to and south of the coal pile. These piles cover approximately 3.5 acres. Runoff from the sawdust and chip piles discharges to the Mill WWTP. For most rainfall events, water is contained under the pile due to the slope of the ground under the sawdust. Bark and debris from the piles could be present in the stormwater runoff for large rainfall events. No chemicals are added or applied to the stored sawdust. There is a wood retaining wall that controls the possible runoff of sawdust between the sawdust pile and the maintenance shop. Any runoff that escapes the wall would be intercepted by Drop Inlet #2 and carried to the utilities lift station. There is a potential for Outfall 009 to discharge overflow from the utilities lift station and the woodyard in the event of a very high intensity storm.

4. Coal Pile

Two coal piles cover an area of approximately 0.5-acre. Runoff from the coal piles discharges to the WWTP. The area is paved and curbed to prevent run-off from entering the mill storm sewer, Outfall 007.

5. OCC Rejects

Rejected material from the OCC processing area (plastics, metal, and other contaminants) are temporarily stored in a bunker North of the OCC Plant. This area drains to a process sewer. Some of this material is placed on the wood refuse pile for fuel.

6. Wastewater Sludge

Dewatered wastewater sludge is transported to a sludge storage bunker via conveyor and accumulated before transport to the mill landfill or offsite for composting. The bunker area is paved. Any material that escapes the bunker is scraped up and transported to the mill landfill. The area drains to the mill WWTP.

Industrial Wastewater Treatment System

The industrial wastewater treatment process that treats the mill's process wastewater is an extended aeration - activated sludge type system. An average of approximately 8.0 million gallons per day of wastewater are treated. The treatment system consists of four pump stations, a primary clarifier, two equalization basins, an aeration basin, a secondary clarifier, a polishing pond, and two sludge ponds. Sludge from the secondary clarifier is either returned to the aeration basin or dewatered using a belt filter press along with sludge from the primary clarifier and dredge material. Dewatered sludge is disposed in the mill's industrial waste landfill.

1. Upriver Lift Station

The Upriver Lift Station is located adjacent to the James River outside the wet end of No. 3 Paper Machine. The Upriver Lift Station receives process wastewater from the Pulp Mill, Beater Room, and Medium Mill, and pumps it to the primary clarifier. If a high level occurs in the lift station, it activates an alarm in No. 3 Paper Machine control room, and is also indicated by a beacon light at the lift station. The sump for the lift station is located 15 feet

below grade. Failure of this lift station would not result in a direct discharge to the river, but would back up sewers in the Pulp Mill and Medium Mill. A BMP Procedure for the Upriver (Medium Mill) Lift Station is included in Appendix 2.

2. Utilities Lift Station

The Utilities lift station is located at the south end of the Medium Mill parking lot, between the main road and the James River. The Utilities lift station receives process wastewater from the Woodyard, Power House, Chemical Recovery, and Evaporator areas, and pumps it to the Equalization Basins or EQ basin bypass line. In the event of a catastrophic piping or pump failure, or a complete electrical failure of primary and backup systems, it would be possible for the main lift station to overflow, which could result in untreated wastewater being discharged through Outfalls 005, 007, and 009. A BMP Procedure for the Utilities Lift Station is included in Appendix 2.

3. Linerboard Mill Lift Station

The Linerboard Mill lift station receives process wastewater from the OCC fiber facility and No. 4 Paper Machine and pumps it to the primary clarifier. If a high level occurs in the lift station, an alarm is activated in the No. 4 Paper Machine control room. A high level in this lift station can result in back-up of wastewater in the process sewers in the OCC/Linerboard Mill which could result in overflow to stormwater Outfall 015. A BMP Procedure for the Linerboard Mill lift station is included in Appendix 2.

4. Equalization Basins

The two equalization basins are both 1-acre and each holds approximately 3 million gallons . If an overflow of the equalization basins occurred, it would result in a wastewater discharge via storm water Outfall 018. There are written procedures contained in the Operations and Maintenance Manual for the WWTP for diverting flow around the equalization basins to the aeration basin in the event of high flow rates to the WWTP or due to other operation situations.

5. Secondary Clarifier Lift Station

The secondary clarifier lift station is located at the south end of the aeration basin, adjacent to the secondary clarifier. The secondary clarifier lift station pumps aerated wastewater from the aeration basin into the secondary clarifier. The level in the aeration basin is monitored by the WWTP operators.

6. Aeration Basin

The aeration basin is a 5-acre lagoon used for extended aeration of the Mill wastewater and has an effective volume of about 18 million gallons. Return activated sludge is returned to the aeration basin from the secondary clarifier. If an overflow of the aeration basin occurred, it would result in a discharge to the polishing pond.

7. Polishing Pond

The Polishing Pond is a 15-acre lagoon used to settle sludge and polish the

water by natural aeration to remove additional BOD from the treated wastewater prior to discharge. It has a capacity of approximately 30 million gallons.

8. Sludge Dewatering System

Primary sludge is pumped to the sludge lift station from the primary clarifier. Secondary sludge is wasted from the secondary clarifier to the sludge lift station via flow by gravity. The sludge lift station pumps to two sludge equalization tanks. If a high level in the sludge lift station occurs, it would overflow to the polishing pond. The equalization tanks are equipped to mix the primary and secondary sludge together to provide a consistent feed to the belt press. The sludge tanks are prevented from overflowing by high-level interlocks, which shut down the sludge lift station when sludge tank level exceeds a designated level. The lift station may also pump sludge to the sludge ponds if the sludge dewatering system is down and the tanks are at capacity.

Dewatered sludge is conveyed outside the belt filter press building into an uncovered concrete sludge storage bunker. The sludge bunker has 8 ft. concrete walls on 3 sides and can hold up to 200 cubic yards of dewatered sludge. The sludge bunker area drains back to the filtrate pump station, which pumps all wastewater back to the aeration basin. Storm water from all outside storage areas drains to the WWTP.

9. Sludge Dewatering Lagoons

The sludge dewatering lagoons consist of two ponds totaling about 7 acres in area that serve as a short term storage area for sludge if the belt filter press is inoperable due to maintenance reasons, or should a condition occur when sludge generating capacity exceeds dewatering capacity. Sludge is pumped from the sludge lift station to the dewatering lagoons and allowed to settle. The supernatant is decanted and returned to the aeration pond. After sludge is reclaimed from the sludge lagoons it is dewatered at the belt filter press, or landfilled, depending on the moisture content.

Sanitary Wastewater Treatment

The sanitary wastewater package plant serves mill employees and several structures in the community of Big Island. The system is an extended aeration modification of the activated sludge process, designed for 40,000 gpd. Final treated effluent from the package plant is chlorinated before discharge to the Mill process wastewater treatment system. Sanitary sludge is pumped from the sludge holding tank as necessary and transported to the Lynchburg Municipal Wastewater Treatment Plant for disposal. A licensed contractor retained at the time of service performs the pumping and hauling. Wastewater is conveyed to the sanitary wastewater package plant by either the Woodyard sanitary lift station, Linerboard Mill sanitary lift station, IR sanitary lift station, or the Guardhouse sanitary lift station.

1. Woodyard Sanitary Lift Station

The Woodyard sanitary lift station is located on the southeast corner of the

wood refuse pile. All sanitary wastewater generated from Mill areas north of chip handling and certain structures from the community of Big Island flow through this lift station as they are pumped to the sanitary wastewater package plant. Due to the hydraulic profile of the sanitary sewer system, in the event of a pipe or pump failure, it would be possible for untreated sanitary wastewater to be discharged to the process wastewater treatment system.

2. Linerboard Mill Sanitary Lift Station

The Linerboard Mill sanitary lift station is located in a manhole immediately north of the Linerboard Mill firewater pumphouse. Sanitary wastewater from the Linerboard Mill is pumped into the sanitary force main to the sanitary wastewater treatment package plant. If a high level occurs, an alarm activates a flashing beacon at the lift station. An overflow of the Linerboard Mill sanitary lift station could result in a discharge to storm water Outfall 015. Bales of recycle paper may be used to contain overflows and minimize the chance of discharge to Outfall 015.

3. Information Resources (IR) Sanitary Lift Station

The Information Resources lift station is located in a 100-gallon septic tank just outside the building. Sanitary wastewater from the IR Center is pumped into the sanitary force main. If a high level occurs, an alarm activates a flashing beacon at the lift station. An overflow of this lift station will go to the WWTP.

4. Guardhouse Sanitary Lift Station

The Guardhouse sanitary lift station is located in a 500-gallon septic tank just outside the building. Sanitary wastewater from the Guardhouse lift station is pumped into the sanitary force main. If a high level occurs, an alarm activates a flashing beacon at the lift station. An overflow of this lift station could result in a discharge to stormwater Outfall 018.

Piping Systems

There are several piping systems that carry potential pollutants on an intermittent basis. These present the most risk when unloading from tank trucks or rail cars that are not routed in controlled areas. These intermittent use lines are always under observation during use, and therefore pose minimal possibility for release of significant amounts of pollutants.

There are five (5) piping systems that carry significant amounts of potential pollutants on a regular basis that are not routed inside controlled areas of the Mill. They are as follows.

1. Process Wastewater Pipelines

Process wastewater is piped from the Medium Mill and Liner Mill lift stations to the primary clarifier; from the primary clarifier and utilities lift station to the equalization basins and/or the aeration basin; and from the equalization basins to the aeration basin. These lines are all buried except for where the line crosses Reed Creek between the equalization basins and the aeration

basin. These lines were replaced or installed as follows: Upriver lift station to Utilities lift station (1985), equalization basins to aeration basins (1988, partial replacement 1998), main lift station to equalization basins (1989), aboveground pipe bridge across Reed Creek (1992), primary clarifier to equalization basins (1995) and the equalization basin bypass (2007).

Tees and isolation valves placed at strategic locations throughout the piping system allow individual components to be isolated or bypassed for maintenance or replacement.

2. Wastewater Sludge Pipelines

Sludge from the primary clarifier is pumped via an underground pipeline to Reed Creek through a line installed in 2008 and from Reed Creek to the sludge lift station through a line installed in 1995. Line cleanouts are provided at intervals of approximately 200 feet. The portion of this line that is aboveground as it crosses Reed Creek was replaced in 1996. The line that crosses Reed Creek and the line from Reed Creek to the sludge lift station were replaced during the 4th quarter of 2009. Return activated sludge from the secondary clarifier flows by gravity through underground piping to the head end of the aeration basin. This line was installed in 1995. Waste activated sludge flows by gravity from the secondary clarifier through underground piping to the sludge lift station.

Sludge is pumped from the sludge lift station to the sludge equalization tanks. Alternatively, sludge can be diverted to the sludge dewatering ponds

during times that sludge volume exceeds sludge press processing capability or the dewatering system is off-line. Lift stations on the north end of each sludge dewatering lagoon pump supernatant back to the aeration basin.

3. Fuel Oil Pipeline

Fuel oil is conveyed between the black liquor/fuel oil tank farm and the Power House via an aboveground pipeline. This pipeline was installed in 1996.

4. Black Liquor Pipeline

Weak black liquor is conveyed between the Recovery area and the black liquor/fuel oil tank farm through aboveground piping. Weak black liquor is conveyed between the Pulp Mill and Recovery area through welded stainless steel piping. This piping is routed underneath the rail car unloading docks. If a leak were to develop in this pipeline liquor would drain into the lower level of the warehouse and then to the ground in the area between the Power House and Main Office. This material would have to travel a considerable distance through the Mill prior to reaching a drain to storm water Outfall 005.

5. Sanitary Wastewater Pipeline

Sanitary wastewater is piped underground to the Woodyard sanitary lift station. From the Woodyard lift station, sanitary wastewater is conveyed aboveground via an aboveground pipeline that runs adjacent with the fuel oil pipeline. This pipeline was installed in 2008 and runs from the

Woodyard sanitary lift station to the area near the tank farm. From there it runs underground to the sanitary package plant.

Landfill

The Amherst landfill is located east of the Mill and is currently in operation. Waste is hauled from the Mill in dump trucks. All precipitation that falls in open cells is captured and the leachate is treated in the Mill WWTP. Sediment basins at the landfill are used to trap sediment from runoff at Outfall 022 and Outfall 028. The sediment basins are cleaned as required to maintain storage capacity and sediment trapping capability.

Nonstructural BMPs

Good Housekeeping

Good housekeeping practices are designed to maintain a clean and orderly work environment in order to reduce the amount of pollutants present in stormwater runoff from the site.

Operation and Maintenance Activities

- Maintain clean floors and ground surfaces using brooms, vacuums, or other cleaning machines.
- Pick up and dispose of garbage and waste material on a regular basis. Hoppers are picked up daily and taken to the landfill.
- Maintain all plant equipment.
- Regularly inspect for leaks and conditions that could cause leaks.

- Operations' personnel look at drums and tote storage area regularly for deficiencies.
- Verify that cleanup procedures are understood by all employees.

Preventive Maintenance

Stormwater management devices are routinely inspected and maintained. Efforts are made to maintain drop inlets and manholes and the area surrounding them free of all debris so that stormwater can easily flow through them. Trench drains, roof drains, and floor drains and the areas around them are kept clear so that they do not get clogged and water can easily enter them. Catch basins are cleaned periodically of sediment such that carryover is minimized into the stormwater conveyance system from the catch basin.

Facility equipment is inspected and tested in accordance with the manufacturer's recommendations to uncover conditions that could cause a breakdown and discharge of pollutants. All chemical delivery systems, including pumps and transfer piping, are inspected to see that they are working adequately and show no signs of corrosion or damage, so that no chemicals will be spilled during the delivery process.

To ensure the structural integrity of tanks and storage vessels, the Big Island Mill conducts tank inspections on a regular frequency as prescribed in GP's corporate guidance. Inspections include ultrasonic thickness testing of steel tanks and "hands on" visual inspection of tile and concrete tanks. The inspections are conducted by qualified inspection firms. In addition, certain

tanks are drained and visually inspected by mill personnel during major mill maintenance outages. These tanks are inspected on the basis of age, material stored, and materials of construction. Records of vessel inspections and other pertinent information are maintained in the Engineering Dept. files.

Spill Prevention and Response Procedures

Below is the list of permitted outfalls, as identified on the maps in Appendix 1, and the specific potential spill areas associated with each:

Outfall 005 (Sheet 1) - Debris around the loading and unloading areas for rail and trucks, and overflow from the process main lift station, could result in a discharge from this outfall. Normal spills and leaks will be collected and drain to the WWTP. The loading docks are routinely cleaned to prevent loose paper from reaching the outfall. In an unlikely event of catastrophic failure, the tanks around the No. 3 Paper Machine would also discharge to this outfall.

Outfall 007 (Sheet 1) – This outfall drains the parking lot, but overflow from the utilities lift station could also result in a discharge from this outfall.

Outfall 008 (Sheet 1) – This outfall discharges off-site stormwater only.

Outfall 009 (Sheet 1) – This outfall primarily discharges stormwater from roadway drainage. There is a potential for discharging overflow from the main lift station and the wood yard during high intensity storm events.

Outfall 010 (Sheet 2) – This outfall drains stormwater from the parking lot and main road.

Outfall 012 (Sheet 2) – The parking lot and roadway drains to this outfall. Outfall 012 picks up the flow from the OCC pad addition after the debris has been removed via a sediment trap. See BMP in attached Appendix 2.

Outfalls 013 and 014 (Sheet 2) – This outfall drains stormwater from the truck scales, main road and parking areas.

Outfall 015 (Sheet 3) – This outfall discharges stormwater from the railroad tracks west of the No. 4 Paper Machine, as well as run-off from around the machine and its roof. In an unlikely event of catastrophic failure, the tanks around No. 4 Paper Machine would also discharge to this outfall.

Outfall 017 (Sheet 3) – This outfall drains surface runoff from the main road and the area around the equalization basins.

Outfall 018 (Sheet 3) – This outfall drains surface runoff between the equalization basins and the main entrance.

Outfall 021 (Sheet 1) – This outfall drains truck and rail unloading areas and outdoor storage area for secondary fiber (DLK). See BMP in attached Appendix 2.

Outfall 022 (Amherst Landfill topo) – This is the outfall from the sediment basin at the Amherst landfill. Any precipitation that falls on the open cells at the landfill is captured and treated in the Mill WWTP. Any waste placed outside or blown from the open cells could potentially impact discharge from this outfall.

Outfall 023 (Amherst Landfill topo) – This outfall drains the haul road near the Amherst landfill entrance.

Outfall 025 (Sheet 2) – This outfall drains from the lowest point on the Mill's Amherst landfill haul road. This outfall could discharge spilled material from trucks on the road between the Amherst landfill and the Mill. Field observations showed this outfall also discharges a dry weather stream to the James River.

Outfall 026 (Bedford Landfill topo) – This is the outfall from the stormwater basin at the closed Bedford landfill.

Outfall 028 (Amherst Landfill topo) – This is the outfall from the Phase III sediment basin at the Amherst landfill.

All materials are handled and stored in such a way as to minimize contact with stormwater runoff and precipitation. The following practices are generally effective in reducing stormwater contact with pollutants:

a. Install and maintain leak detection devices, overflow controls, and diversion berms.

b. Disconnect drains that could possibly convey materials from process areas to the storm sewer.
c. Adopt effective housekeeping practices.
d. Perform visual inspections and regular maintenance on storage tanks, valves, pumps, pipes, and other equipment at the plant.
e. Substitute less or non-toxic materials for toxic materials.
f. Ensure appropriate security.

Specific spill response plans for the areas having special requirements are included in the following sections:

Water Chemicals/Caustic Truck Unloading - In the event of a major spill in this area, sandbags should be placed around all storm drains in the parking lot areas to prevent materials from reaching Outfalls 005 and 007 or any other storm outfalls.

Chemical Recovery - In the event of a catastrophic failure of any of the large storage tanks flow of material escaping the tank's containment system would be collected by using front end loaders to obtain bark/sawdust from the bark pile and placing them in the path of the spill. Several scoops of bark/sawdust should provide an ample dam to prevent material from reaching the stormwater catch basin and allow for cleanup of the material via normal physical and chemical (neutralization) methods.

No. 3 Paper Machine Courtyard (River Bank by No. 3 Paper Machine) - Spills in

this area flow to the upriver lift station and then to the WWTP. In the event of a major spill, bark/sawdust would be brought from the bark pile and used to block off flow going into the parking lot and to storm drains going to Outfall 005. The contained material could then be flushed into either the catch basin in the chemical unloading area or the catch basin outside the maintenance shop that goes to the WWTP. If the spill was from the H-D Stock Chest, the material would quickly be dewatered and the remaining fiber picked up by front end loader and transported to the landfill.

The Big Island Mill maintains a supply of material and equipment at various locations to be used to contain and cleanup any material spilled at the facility. In the event of a spill near any process or storm sewer drain, efforts would be made to berm the opening to the sewer and contain the spilled material. The mill's SPCC should be referenced for a current list of the equipment and material available for spill control and cleanup.

The activated sludge wastewater treatment system at the Big Island Mill currently operates well below the discharge limits required by the VPDES permit. While the wastewater treatment plant is well suited to treat most releases in the Mill, it is not used as a substitute for proper management of oil and hazardous substances within the Mill. In the event of a major spill, every effort would be made to isolate the spill in one of the equalization basins. This material would either be managed in place or be slowly fed into the aeration basin. The result would be much less of an impact on the wastewater treatment system. Two such occurrences would be: (1) Loss of a caustic tank in the Chemical Recovery

Plant, and (2) Loss of a liquor tank (weak or strong) in the Recovery Plant. These scenarios are discussed in the following sections.

1. Caustic Tank Failure

   The catastrophic failure of a full caustic tank in the Chemical Recovery Plant, resulting in a spill of 14,000 gallons of 50 percent caustic to the process sewer, would ultimately flow to the WWTP. With an average flow of 7.8 MGD, and normal levels maintained in the aeration basin and polishing pond, this amount of caustic would increase the pH of the aeration basin. This pH could be expected to affect the microorganisms in the aeration basin, with a resulting sustained decrease in wastewater treatment efficiency. The management of flow in the equalization basins would be required in this case to prevent any final effluent violation of permit limits for pH, and possibly BOD_5 and TSS.

2. Loss of Weak or Strong Black Liquor Tank

   A catastrophic failure of a strong black liquor tank (100,000 gallons) would be collected by the process sewer and discharged to the wastewater treatment system. This tank has a BOD_5 loading of 50,000 kilograms. The catastrophic failure of a weak black liquor tank (900,000 gallons) would be retained in the containment structure at the tank farm. This material could be recovered or metered into the WWTP. Clearly, flow management utilizing the holding capabilities of the equalization basins would be required in either case to prevent over-loading the treatment system and possibly exceeding the effluent discharge permit limitations

There is little potential of the wastewater treatment plant flow limits being exceeded at any time due to chemical spill or catastrophic tank failure. The system was designed for a maximum sustained flow rate of 10.87 million gallons per day (MGD), and the largest vessel in the Mill that could potentially discharge directly to the WWTP is 0.15 MGD. Therefore, a catastrophic failure of the largest tank in the mill would not cause flow rates at the treatment plant to exceed design limits.

Inspections

Facility personnel are responsible for inspecting all of the devices, controls, and equipment identified above and any deficiencies must be corrected as soon as practicable. The results of the inspections are located in the Environmental Dept. files. These inspections are performed as part of the comprehensive site evaluation as described in the Mill's Stormwater Pollution Prevention Plan. When a spill or leak is discovered, the procedures are set forth as specified in the Mill's Stormwater and/or Spill Prevention Plan.

Employee Training

Employee training requirements and records are kept on file in the Personnel Department or Safety Manager's office. On-the-job training is provided on all maintenance and production jobs in the Mill. Workers in lower job classifications are set up for a specified number of days to work with, and be trained by, senior operators and supervision before they are allowed to fill a job. Normal and emergency operating procedures, cleanup, maintenance, and control systems are taught.

All Mill employees have also been trained under the Mill's Hazard Communication Program for chemical handling. Annual refresher classes are given for these areas. Computer based training is also conducted annually that discusses each storm water outfall, good housekeeping, material management practices, spill containment, spill reporting, and BMPs.

Structural BMPs

Sediment and Erosion Control

Erosion and sediment control measures are erected around the areas to be disturbed in any construction activities. These include check dams, silt fences, and ditches. Areas with soil disturbance are seeded or otherwise covered as appropriate.

Management of Runoff

The Big Island Mill facility incorporates traditional stormwater management practices in a manner that reduces pollutants in stormwater discharges from the facility. These practices include diversion berms or dikes around outdoor tanks and storage areas and erosion control devices where needed. The practices undertaken at this facility to reduce potential pollutants in the stormwater discharges are provided in the Mill's Stormwater Pollution Prevention Plan and Spill Prevention, Control and Countermeasures Plan.

STORMWATER
BEST MANAGEMENT PRACTICES
OUTFALL 012

Outfall 012 discharges storm water from the OCC storage pad and truck staging area. The storm water flows into a sediment trap, which captures floatables and allows sediment to settle prior to entering the river.

The following are sampled as required for the VPDES permit: TSS, BOD, Nitrate plus Nitrite and pH. This outfall is sampled annually.

BMP's established for this outfall are to address housekeeping around area just outside of the OCC pad:

1. Install screens that help filter the trench that drains along the OCC pad into the sediment trap.
2. Routinely clean the trench that captures storm water along the chip pile and the drain area to the sediment trap.
3. Inspect the sediment trap monthly.
4. Thoroughly vacuum the sediment trap of debris and captured solids at least once per quarter or more frequent as needed.

Departments responsible for housekeeping are Liner Mill OCC, Woodyard, and Environmental.

STORMWATER
BEST MANAGEMENT PRACTICES
OUTFALL 014

Outfall 014 drains storm water from the truck scales, main road and parking areas. Water runoff enters drains prior to exiting to the river

The following are sampled as required for the VPDES permit: TSS and BOD are collected annually. Dissolved copper is collected once per quarter.

BMP's established for this outfall provide a spill kit that contains socks, pads, and absorbents at the scale house. This will facilitate prompt cleanup of any material that may be deposited as a result of truck traffic waiting to enter the scales.

Personnel in the scale house have been informed of the spill kit and the contents, use and disposal of the contents in the kit.

STORMWATER
BEST MANAGEMENT PRACTICES
OUTFALL 017

Outfall 017 drains storm water from the equalization basins and main road areas. Water runoff enters drains prior to exiting to the river

The following are sampled as required for the VPDES permit: TSS and BOD are collected annually. Dissolved copper is collected once per quarter.

BMP's established for this outfall are to filter out solids in an effort to keep contaminates from entering the river. A silt screen and bales of hay have been placed in several locations in the drainage ditches that flow to the outfall to help filter out TSS.

As needed the silt screen and the hay bales will be replaced to maximize filtration of storm water.

STORMWATER
BEST MANAGEMENT PRACTICES
OUTFALL 021

Outfall 021 drains storm water from truck unloading areas and secondary fiber (DLK) storage area. Treatment prior to discharge is from a baffled sediment basin.

The following are sampled as required for the VPDES permit: TSS, BOD, and pH are collected annually. Dissolved zinc is collected once per quarter.

BMP's established for this outfall are to contain DLK clippings, sediment, and other contaminates from entering the river. Concrete barriers have been placed around the outfall to filter out DLK clippings that may be swept towards the basin during a storm event.

The following items will address housekeeping around the outfall:

1. Clean the area of DLK clippings on a routine basis
2. Drain guards will be placed in front of the sump to capture sediment prior to entering the catch basin.
3. Trailers will be located upriver of the pulp mill buildings.

Pulp mill personnel are responsible for this area.

STORMWATER
BEST MANAGEMENT PRACTICES
OUTFALL 023 & 025

Outfall 023 and 025 drains storm water from the haul road at the Amherst Landfill. The following are sampled as required for the VPDES permit: TSS and total recoverable iron. Nitrate+Nitrite and COD are only analyzed for outfall 023.

In an effort to maintain storm water quality below the decision criteria level on the storm water requirements, the following best management practices have been established to improve the quality of the storm water runoff.

Truck drivers hauling fly ash to the landfill must ensure that the hopper is not overloaded, and the tarp is on the fly ash when hauling to prevent material from blowing off. All drivers hauling material to the landfill will also ensure that any other material is covered as needed to prevent anything from blowing off. Annual training is provided to the truck drivers to discuss the importance of not overfilling the trucks and covering all loads going to the landfill.

Outfall 023 drains runoff from the slopes of Phase 1 as well as some of the road area that goes to this Phase. Due to some erosion along the bank prior to the outfall, silt fencing, bales of straw, as well as placement of rip-rap have been installed to prevent erosion, as well as aiding in filtering any sediment that may enter the outfall.

STORMWATER
BEST MANAGEMENT PRACTICES
OUTFALL 555

Outfall 555, composed of 005, 007, 009, 010, 013 drains storm water from the entrance road, parking lot, and loading and unloading areas. Water runoff enters drains prior to exiting to the river

The following are sampled as required for the VPDES permit: TSS, BOD, and pH are collected annually. Dissolved copper is collected once per quarter.

BMP's established for this outfall are to address housekeeping around the parking areas. Drain and curb guards are installed for outfalls 007, 009, 010, 013 to filter out sediment prior to entering the catch basin. As needed, the parking lot will be swept to minimize sediment buildup in the areas that drain to storm water.

During construction of the recovery boiler the drainage area along the trackside of the mill road that flows to Outfall 009 will be rerouted to go to the wastewater treatment system.

EQUALIZATION BASINS SPILL MANAGEMENT PROCEDURE

In the event of a catastrophic spill to the mill wastewater treatment system, the Equalization Basins have some capacity to mitigate flow to the Aeration Basin. Additional samples will be taken during such an event to determine anticipated affects on the wastewater treatment system.

In the event that flows need to be diverted around the Equalization basins, bypassing the Utilities lift station to the aeration basin would give some relief. The Environmental Supervisor must be contacted prior to bypassing around the equalization basins. Either the Environmental Operator or Sludge Press Operator will switch the valves.

BEST MANAGEMENT PRACTICES FOR LINERBOARD MILL LIFT STATION

The Linerboard Mill lift station is located east of and adjacent to No. 4 Paper Machine (PM). The lift station receives wastewater from No. 4 PM and the OCC Plant. The lift station is equipped with a manually cleaned bar rack and three 2600 GPM solids-handling Gormahn-Rupp lift pumps. The lead lift pump is provided with a variable frequency drive and under normal operating conditions is the only pump operating. The remaining pumps handle spill events and storm water flows up to a 25-year storm event. Wastewater is normally pumped from the Linerboard Mill lift station to the primary clarifier, however, during maintenance events or operational upsets, wastewater from the Linerboard Mill lift station can be diverted to the equalization basins, depending on valve positions.

One pump can be operated by a diesel-powered generator. The generator would automatically start if a loss of power occurs.

NORMAL OPERATING AND MAINTENANCE PROCEDURES

On a daily basis, a Linerboard Mill Operator inspects the lift station noting housekeeping, any unusual sounds, equipment condition, leaks, water level, rejects accumulation etc. The bar rack located on the suction side of these pumps is raked clean on an as-needed basis, and any accumulation of rejects material in the lift station is removed promptly. The Linerboard Mill Supervision is notified of any needs.

A preventative maintenance system has been developed for the lift station. Maintenance is notified through the work order system for any routine mechanical and/or electrical needs. Shift Mechanics and E&I Technicians are also available for immediate action.

Linerboard Mill Operators, in cooperation with the Environmental Dept. and/or Maintenance check the proper operation of the pump float switches and the high level alarm system quarterly. An alarm condition for high level is activated in the Linerboard Mill control room.

BEST MANAGEMENT PRACTICES PLAN FOR OUTFALL 001

Outfall 001 is a clear non-contact cooling water discharge into the James River immediately downstream of the Upriver (Medium Mill) lift station. Access to the discharge for monitoring purposes is provided by a stairway over the stone flood protection berm and down the bank to the discharge point on the riverbank.

This discharge carries clear water discharges from various operations in the Pulp and Medium Mill areas. These include non-contact cooling water for air conditioners and process equipment. Such waters from Pulp Mill sources are brought together in a collection tank near the Blow Tank.

The discharge flow is measured with a Parshall flume and a check valve is mounted on the end of the discharge pipe to prevent flood water from backing up into the system from the river.

A flow composite sampler and sample refrigerator is located in No. 3 PM basement near the multi-use pit. 24-hour composite samples are collected for laboratory analysis.

BEST MANAGEMENT PRACTICES FOR MEDIUM MILL LIFT STATION (Upriver Lift Station)

The Medium Mill lift station is located in No. 3 Paper Machine (PM) courtyard immediately outside No. 3 PM wet end. The lift station is equipped with a basket screen, and three Gorman-Rupp solids-handling pumps. The Medium Mill lift station receives wastewater from the Pulp Mill, Stock Prep, and Nos. 1 and 3 PM. Wastewater is normally pumped from the Medium Mill lift station to the primary clarifier, however, during maintenance events or operational upsets wastewater from the Medium Mill lift station can be diverted to the equalization basins, or to the aeration basin, depending on valve positions.

High water level in the lift station activates an "effluent high water level alarm" in the Medium Mill PM control room. In addition to the control room alarm, there is a flashing red beacon light at the lift station that automatically turns on when the water reaches a high level in the wet pit. This alarm will alert personnel within visual range of the lift station of high water in the lift station wet well.

NORMAL OPERATING AND MAINTENANCE PROCEDURES

On a daily basis, the Medium Mill Assistant designate inspects the lift station noting housekeeping, any unusual sounds, equipment condition, leaks, water level, etc.

STORMWATER
BEST MANAGEMENT PRACTICES
MEDIUM MILL LIFT STATION

A preventative maintenance system has been developed for the lift station. Maintenance is notified through the work order system of any routine mechanical and/or electrical needs. Shift Mechanics and E&I Technicians are available for immediate action.

Vacuuming of the lift station by an outside contractor will be done on an as needed basis to remove floating debris that builds up over time. This will be determined by operations.

BEST MANAGEMENT PRACTICES FOR UTILITIES LIFT STATION

The Utilities lift station is located at the south end of the medium mill parking lot, between the main entrance road and the James River. The lift station is equipped with a bar screen and three Gorman-Rupp pumps, each with a capacity of 2,500 gpm. The Utilities lift station receives wastewater from the Power House, Recovery, and Evaporator areas, and storm water from the Woodyard area. Wastewater is normally pumped from this lift station to the Equalization Basins, however, during maintenance activities or operational upsets, wastewater can be diverted to the aeration basin as required.

The main lift station pumps are normally controlled in automatic mode according to wet well level. The order of operation of the pumps is automatically sequenced every 24 hours to ensure that all pumps remain operational and free of solids buildup. As the level in the lift station rises, if the third pump turns on, an alarm sounds in the Power House control room, and a flashing red light at the main lift station turns on. The alarm indicates a high level in the lift station.

There is a redundant power feed to the main lift station. Power is automatically switched to a secondary feed if the main feed fails. The two feeds are from different transformers.

NORMAL OPERATING AND MAINTENANCE PROCEDURES

The Recovery 2nd Assistant inspects the main lift station on a daily basis, noting any unusual sounds, equipment condition, leaks, water level, etc. and notifies the Utilities Supervisor of any needs.

The Service Crew will be requested to perform routine housekeeping duties and clean heavy accumulations from the rack.

A preventative maintenance system has been developed for the lift station. Maintenance is notified through the work order system for any routine mechanical and/or electrical needs. Maintenance personnel are responsible for checking the proper operation of the pump float switches and the high level alarm system on a quarterly basis. Shift mechanics and electricians are available for immediate action 24 hours/day, 7 days/week if required.

BEST MANAGEMENT PRACTICES FOR SANITARY LIFT STATION

The sanitary lift station is located at the southeast corner of the wood refuse pile in the Woodyard. This lift station receives sanitary wastewater from the Medium Mill, Power House, Recovery, and Woodyard areas, as well as part of the Big Island community. Wastewater is pumped from this lift station to the sanitary wastewater treatment package plant located north of the equalization basins. Two Gorman-Rupp pumps are located at this lift station, each capable of pumping the design flow of 40,000 gallons per day. As such, only one pump usually operates at a time. The order of operation of the pumps is manually sequenced every week to ensure that all pumps remain operational and free of solids buildup.

NORMAL OPERATING AND MAINTENANCE PROCEDURES

An Environmental Operator inspects the lift station on a daily basis, noting any unusual sounds, equipment condition, leaks, water level, etc., notifying the Environmental Supervisor of any needs. Maintenance is requested through the work order system and followed up with the area supervisor.

At least twice a year, the Environmental Operator in cooperation with Maintenance personnel check the proper operation of the pump float switches and the high level alarm system.

Each pump is operated in automatic mode under normal operating conditions. The pumps are activated by level switches in the wet well. The alarm system for the lift station contains a backup power supply for alarm annunciation. Alarm condition is initiated by high level or power failure in the lift station. Each alarm condition is verified by an audio-visual alarm located at the lift station and a common audio-visual alarm condition signal is transmitted to the power control room, which is manned 24 hours per day.

Table [redacted] Chemical U[redacted]ading Areas

Process Area	Unloading Area	Delivery By	Chemical/Material	Spill Containment/Disposal
Recovery	Rail siding	Rail Car	Caustic, Soda Ash	Area slopes toward trench which drains to process sewer and WWTP.
Recovery	Recovery Area Tank Farm Courtyard	Truck	Caustic, Soda Ash	Concrete pad, area slopes toward trench which drains to process sewer and WWTP.
Power House	Courtyard outside NE corner of Water Treatment Plant	Truck (totes or multi-compartment bulk	Caustic, Boiler Water Treatment, Defoamer	Paved area, slopes towards process sewer and WWTP.
Power House - Water Treatment	Courtyard outside NE corner of Water Treatment Plant	Truck (totes or multi-compartment bulk	Polymer, Salt, Alum	Paved area, slopes towards process sewer and WWTP.
Medium Mill	No. 3 Paper Machine Courtyard	Truck (totes)	Detergent or Caustic based cleaners, Defoamer, Oil	Paved area, slopes towards process sewer and WWTP.
Medium Mill	No. 3 Paper Machine Courtyard	Truck (bulk)	Defoamer, Feltwash	Paved area, slopes towards process sewer and WWTP.
Linerboard Mill	Additive unloading alleyway and south end of No. 4 PM basement	Truck (totes)	Detergent or Caustic based cleaner, Biocide, Defoamer, Shade control	Paved area, slopes towards process sewer and WWTP.
Linerboard Mill	Additive unloading alleyway	Truck (bulk or totes)	Defoamer, Detergent or caustic based cleaners, Polymer, Alum, Starch, Sizing, Antiskid	Paved area, slopes towards process sewer and WWTP.
Wastewater Treatment	Primary Clarifier	Truck (bulk)	Nitrogen/Phosphorus Blend (Nutrient)	Area is contained. Stormwater is pumped to WWTP.
Wastewater Treatment	Primary Clarifier	Truck (bulk)	Calcium Nitrate	Area is contained. Stormwater is pumped to WWTP.
Wastewater Treatment	Sludge Press	Truck (bulk)	Polymer	Concrete pad drains to process sewer and WWTP.

Table 3-2

Outside Storage Tanks

Process Area	Tank	Contents	Volume Gallons	Containment Drainage
Pulp Mill	Propane	Liquified Propane	1000 ea (2 tanks)	NA
Medium Mill	Felt Cleaner	Presstige	6,400	Concrete containment pad. Area drains to process sewer & WWTP
Medium Mill	High Density (HD) Pulp Tank	Paper Stock	581,668	Concrete containment pad. Area drains to process sewer & WWTP
Medium Mill	Sweco	Paper Stock		Area drains to process sewer and WWTP
Medium Mill	Warm Water	Warm Water		Area drains to process sewer and WWTP
Medium Mill	Used Oil	Used Oil	1,000	Tank is contained
Water Treatment	Alum Tank	48.5% Alum	8,000	Tank is contained
Water Treatment	Boiler Condensate	Boiler Condensate	15,040	Area drains to process sewer and WWTP
Water Treatment	Salt Tank	Salt	8,500	Area drains to process sewer and WWTP
Water Treatment	Caustic Tank	Sodium hydroxide	7,530	Area drains to process sewer and WWTP
Recovery	Kerosene Tank	Kerosene	300	Area drains to process sewer and WWTP
Recovery	Sodium Carbonate (3)	Sodim Carbonate	39,657 ea	Area drains to process sewer and WWTP
Recovery	Strong Black Liquor	Strong black liquor	100,000	Area drains to process sewer and WWTP
Recovery	Green Liquor	Green Liquor	150,000	Area drains to process sewer and WWTP
Recovery	Swing Tank	Weak black liquor or green liquor	150,000	Area drains to process sewer and WWTP
Recovery	Surge Tank	Weak black liquor	16,919	Area drains to process sewer and WWTP
Recovery	Rec. Boiler Area Tanks (4)	Black liquor or green liquor	6,750 to 90,000	Area drains to process sewer and WWTP
Recovery	Finished Liquor Tank	White liquor	174,000	Area drains to process sewer and WWTP
Power House	Diesel fuel day tank	Diesel fuel	1,000	Tank is contained
Woodyard	Diesel fuel tank	Diesel fuel	4,000	Double walled tank with curbing
Woodyard	Gasoline Tank	Gasoline	1,000	Double walled tank with curbing
Linerboard Mill	Dump Chest	Paper Stock	177,732	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Caustic Tank	Sodim hydroxide	13,535	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Alum Tank	Alum 48.5%	13,535	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Size	Chemical Additive	6,400	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Defoamer	Defoamer	5,500	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Broke	Paper Stock	155,600	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	High Density (HD) Pulp Tank	Paper Stock	667,071	Tank is loacted within concrete containment. Area drains to WWTP

Table 3-2

Outside Storage Tanks

Process Area	Tank	Contents	Volume Gallons	Containment Drainage
Linerboard Mill	Low Density storage chest	Paper Stock	45,494	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Whitewater	Dilute stock solution	154,171	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Propane (2)	Liquified Propane	1,000 ea	N/A
Linerboard Mill	Kerosene Tank	Kerosene	250	Tank is contained and area drains to stormwater sewer
Linerboard Mill	Starch Silo	Starch		Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Size	Chemical Additive	10000	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Hercobond Tank	Chemical Additive	6400	Tank is loacted within concrete containment. Area drains to WWTP
Linerboard Mill	Fire Tank	Mill Water		Area drains to stormwater sewer
Tank Farm	Weak Black Liquor	weak black Liquor	588,000	Tank is located within an earthern berm
Tank Farm	Weak Black Liquor (2)	Weak black liquor	900,000	Tank is located within an earthern berm
Tank Farm	Diesel fuel storage tank	Diesel fuel	125,000	Tank is located within an earthern berm
WWTP	Nutrient	Urea-phosphoric Acid	6,000	Tank is located within concrete containment.
WWTP	Primary Clarifier	Industrial Wastewater	853,000	Area drains to stormwater sewer
WWTP	Calcium Nitrate Tank	Calcium Nitrate	5,000	Tank is located within containment
WWTP	Propane Tank	Liquified propane	500	N/A
WWTP	Secondary Clarifier	Industrial Wastewater	1,700,000	Area drains to WWTP and stormwater
WWTP	Sludge Tanks (2)	Industrial Wastewater Sludge	100,000 ea	Tank equipped with high level interlocks. Area drains to stormwater
WWTP	Lime Silo	Quicklime	50 tons	Tank equipped with high level interlocks. Area drains to WWTP
Amherst Landfill	Diesel Truck	Diesel fuel	2000	Truck is located within a lined earthern berm

FACILITY NAME: GP Big Island, LLC VPDES PERMIT NUMBER: VA0003026

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

SCREENING INFORMATION

This application is divided into four sections. Section A pertains to all applicants. The applicability of Sections B, C and D depends on your facility's sewage sludge use or disposal practices. The information provided on this page will help you determine which sections to fill out.

1. All applicants must complete Section A (General Information).

2. Does this facility generate sewage sludge? __X__ Yes _____ No

   Does this facility derive a material from sewage sludge? _____ Yes __X__ No

   If you answered "Yes" to either, complete Section B (Generation Of Sewage Sludge or Preparation Of A Material Derived From Sewage Sludge).

3. Does this facility apply sewage sludge to the land? _____ Yes __X__ No

   Is sewage sludge from this facility applied to the land? _____ Yes __X__ No

   If you answer "No" to all above, skip Section C.

   If you answered "Yes" to either, answer the following three questions:

   a. Does the sewage sludge from this facility meet the ceiling concentrations, pollutant concentrations, Class A pathogen reduction requirements and one of the vector attraction reduction requirements 1-8, as identified in the instructions? _____ Yes _____ No

   b. Is sewage sludge from this facility placed in a bag or other container for sale or give-away for application to the land? _____ Yes _____ No

   c. Is sewage sludge from this facility sent to another facility for treatment or blending? _____ Yes _____ No

   If you answered "No" to all three, complete Section C (Land Application Of Bulk Sewage Sludge).

   If you answered "Yes" to a, b or c, skip Section C.

4. Do you own or operate a surface disposal site? _____ Yes __X__ No

   If "Yes", complete Section D (Surface Disposal).

SECTION A. GENERAL INFORMATION

All applicants must complete this section.

1. Facility Information.

a. Facility name: GP Big Island, LLC

b. Contact person: Timothy H. Pierce

Title: EHS Manager

Phone: (434) 299-7386

c. Mailing address:

Street or P.O. Box: P. O. Box 40

City or Town: Big Island State: VA Zip: 24526

d. Facility location:

Street or Route #: 9363 Lee Jackson Highway

County: Bedford

City or Town: Big Island State: VA Zip: 24526

e. Is this facility a Class I sludge management facility? _____ Yes __X__ No

f. Facility design flow rate: 0.04 mgd

g. Total population served: 200 equivalent population (estimated)

h. Indicate the type of facility:

_____ Publicly owned treatment works (POTW)

__X__ Privately owned treatment works

_____ Federally owned treatment works

_____ Blending or treatment operation

_____ Surface disposal site

_____ Other (describe): _____

2. Applicant Information. If the applicant is different from the above, provide the following:

a. Applicant name: Same

b. Mailing address:

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

c. Contact person: _____

Title: _____

Phone: (_____) _____

d. Is the applicant the owner or operator (or both) of this facility?
__X__ owner __X__ operator

e. Should correspondence regarding this permit be directed to the facility or the applicant?
__X__ facility _____ applicant

3. Permit Information.

a. Facility's VPDES permit number (if applicable): VA0003026

b. List on this form or an attachment, all other federal, state or local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:

Permit Number:	Type of Permit:
N/A	N/A

4. **Indian Country.** Does any generation, treatment, storage, application to land or disposal of sewage sludge from this facility occur in Indian Country? _____ Yes __X__ No If "Yes", describe:

5. **Topographic Map.** Provide a topographic map or maps (or other appropriate maps if a topographic map is unavailable) that shows the following information. Maps should include the area one mile beyond all property boundaries of the facility:
   a. Location of all sewage sludge management facilities, including locations where sewage sludge is generated, stored, treated, or disposed.
   b. Location of all wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within 1/4 mile of the property boundaries.

6. **Line Drawing.** Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction. See attached copy of sludge management plan.

7. **Contractor Information.** Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor? __X__ Yes _____ No

   If "Yes", provide the following for each contractor (attach additional pages if necessary).

   Name: Wilson's Septic Tank Service

   Mailing address:

   Street or P.O. Box: P. O. Box 4619

   City or Town: Lynchburg State: VA Zip: 24502

   Phone: (434) 239-4387

   Contractor's Federal, State or Local Permit Number(s) applicable to this facility's sewage sludge:

   VA 87-214-14H

   If the contractor is responsible for the use and/or disposal of the sewage sludge, provide a description of the service to be provided to the applicant and the respective obligations of the applicant and the contractor(s).

8. **Pollutant Concentrations.** Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants which limits in sewage sludge have been established in 9 VAC 25-31-10 et seq. for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old. **Not required.**

POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic				
Cadmium				
Chromium				
Copper				
Lead				
Mercury				
Molybdenum				
Nickel				
Selenium				
Zinc				

9. **Certification.** Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of the application you have completed and are submitting:

__X__ Section A (General Information)

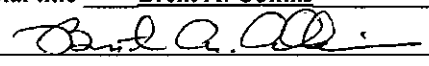
__X__ Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)

_____ Section C (Land Application of Bulk Sewage Sludge)

_____ Section D (Surface Disposal)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name and official title Brent A. Collins Vice President Manufacturing, GP Big Island, LLC

Signature  Date Signed 2/2/10

Telephone number (434) 299-5911

Upon request of the department, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

SECTION B. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE

Complete this section if your facility generates sewage sludge or derives a material from sewage sludge

1. **Amount Generated On Site.**
Total dry metric tons per 365-day period generated at your facility: 2.74 dry metric tons

2. **Amount Received from Off Site.** If your facility receives sewage sludge from another facility for treatment, use or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary.

   a. Facility name: N/A

   b. Contact Person: _____

      Title: _____

      Phone: (_____) _____

   c. Mailing address:

      Street or P.O. Box: _____

      City or Town: _____ State: _____ Zip: _____

   d. Facility location: _____

      (not P.O. Box) _____

   e. Total dry metric tons per 365-day period received from this facility: _____ dry metric tons

   f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics:

      _____

      _____

3. **Treatment Provided at Your Facility.**

   a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?
   _____ Class A _____ Class B __X__ Neither or unknown

   b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge: none

      _____

   c. Which vector attraction reduction option is met for the sewage sludge at your facility?

      _____ Option 1 (Minimum 38 percent reduction in volatile solids)

      _____ Option 2 (Anaerobic process, with bench-scale demonstration)

      _____ Option 3 (Aerobic process, with bench-scale demonstration)

      _____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)

      _____ Option 5 (Aerobic processes plus raised temperature)

      _____ Option 6 (Raise pH to 12 and retain at 11.5)

      _____ Option 7 (75 percent solids with no unstabilized solids)

      _____ Option 8 (90 percent solids with unstabilized solids)

      __X__ None or unknown

   d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge: Sludge is pumped from aerated holding tank into truck and discharged directly into City of Lynchburg WWTP.

   e. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities, including blending, not identified in a - d above: none

      _____

4. **Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements and One of Vector Attraction Reduction Options 1-8 (EQ Sludge).** N/A

(If sewage sludge from your facility does not meet all of these criteria, skip Question 4.)

a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land:

_____ dry metric tons

b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away?

_____ Yes _____ No

5. **Sale or Give-Away in a Bag or Other Container for Application to the Land.** N/A

(Complete this question if you place sewage sludge in a bag or other container for sale or give-away prior to land application. Skip this question if sewage sludge is covered in Question 4.)

a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land: _____ dry metric tons

b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

6. **Shipment Off Site for Treatment or Blending.**

(Complete this question if sewage sludge from your facility is sent to another facility that provides treatment or blending. This question does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this question if the sewage sludge is covered in Questions 4 or 5. If you send sewage sludge to more than one facility, attach additional sheets as necessary.)

a. Receiving facility name: City of Lynchburg Regional Wastewater Treatment Plant

b. Facility contact: Alvin Rucker

Title: Plant Superintendent

Phone: (434) 455-6240

c. Mailing address:

Street or P.O. Box: 2301 Concord Turnpike

City or Town: Lynchburg State: VA Zip: 24504

d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility:

2.74 dry metric tons

e. List, on this form or an attachment, the receiving facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the receiving facility's sewage sludge use or disposal practices:

Permit Number:	Type of Permit:
VA0024970	VPDES

f. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility?

X Yes _____ No

Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?

_____ Class A X Class B _____ Neither or unknown

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge: Lime stabilization

g. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge? X Yes _____ No

Which vector attraction reduction option is met for the sewage sludge at the receiving facility?

_____ Option 1 (Minimum 38 percent reduction in volatile solids)

_____ Option 2 (Anaerobic process, with bench-scale demonstration)

_____ Option 3 (Aerobic process, with bench-scale demonstration)

_____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)

_____ Option 5 (Aerobic processes plus raised temperature)

__X__ Option 6 (Raise pH to 12 and retain at 11.5)

_____ Option 7 (75 percent solids with no unstabilized solids)

_____ Option 8 (90 percent solids with unstabilized solids)

_____ None unknown

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge: Lime stabilization

h. Does the receiving facility provide any additional treatment or blending not identified in f or g above?
_____ Yes __X__ No

If "Yes", describe, on this form or another sheet of paper, the treatment processes not identified in f or g above:

i. If you answered "Yes" to f, g or h above, attach a copy of any information you provide to the receiving facility to comply with the "notice and necessary information" requirement of 9 VAC 25-31-530.G.

j Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? _____ Yes __X__ No

If "Yes", provide a copy of all labels or notices that accompany the product being sold or given away.

k. Will the sewage sludge be transported to the receiving facility in a truck-mounted watertight tank normally used for such purposes? __X__ Yes _____ No. If "No", provide description and specification on the vehicle used to transport the sewage sludge to the receiving facility.

Show the haul route(s) on a location map or briefly describe the haul route below and indicate the days of the week and the times of the day sewage sludge will be transported. Transported via Highway 501 from Big Island to Lynchburg (additional information in sludge management plan). Sludge is hauled on an as-needed basis, typically once per month or less frequently

7. **Land Application of Bulk Sewage Sludge.** N/A

(Complete Question 7.a if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in Questions 4, 5 or 6. Complete Question 7.b, c & d only if you are responsible for land application of sewage sludge.)

a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites:

_____ dry metric tons

b. Do you identify all land application sites in Section C of this application? _____ Yes _____ No

If "No", submit a copy of the Land Application Plan (LAP) with this application (LAP should be prepared in accordance with the instructions).

c. Are any land application sites located in States other than Virginia? _____ Yes _____ No

If "Yes", describe, on this form or on another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

d. Attach a copy of any information you provide to the owner or lease holder of the land application sites to comply with the "notice and necessary" information requirement of 9 VAC 25-31-530 F and/or H (Examples may be obtained in Appendix IV).

8. **Surface Disposal.** N/A

(Complete Question 8 if sewage sludge from your facility is placed on a surface disposal site.)

a. Total dry metric tons per 365-day period of sewage sludge from your facility placed on all surface disposal sites: _____ dry metric tons

b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?
_____ Yes _____ No

If "No", answer questions c - g for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one surface disposal site, attach additional pages as necessary.

c. Site name or number: _____

d. Contact person: _____

Title: _____

Phone: (_____) _____

Contact is: _____ Site Owner _____ Site operator

e. Mailing address:

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

f. Total dry metric tons per 365-day period of sewage sludge from your facility placed on this surface disposal site: _____ dry metric tons

g. List, on this form or an attachment, the surface disposal site VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the sewage sludge use or disposal practices at the surface disposal site:

Permit Number:	Type of Permit:
_____	_____
_____	_____

9. **Incineration.** N/A

(Complete Question 9 if sewage sludge from your facility is fired in a sewage sludge incinerator.)

a. Total dry metric tons per 365-day period of sewage sludge from your facility fired in a sewage sludge incinerator: _____ dry metric tons

b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired?
_____ Yes _____ No

If "No", answer questions c - g for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one sewage sludge incinerator, attach additional pages as necessary.

c. Incinerator name or number: _____

d. Contact person: _____

Title: _____

Phone: (_____) _____

Contact is: _____ Incinerator Owner _____ Incinerator Operator

e. Mailing address:

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

f. Total dry metric tons per 365-day period of sewage sludge from your facility fired in this sewage sludge incinerator: _____ dry metric tons

g. List on this form or an attachment the numbers of all other federal, state or local permits that regulate the firing

of sewage sludge at this incinerator:

Permit Number: Type of Permit:

_____ _____

_____ _____

10. Disposal in a Municipal Solid Waste Landfill. N/A

(Complete Question 10 if sewage sludge from your facility is placed on a municipal solid waste landfill. Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.)

a. Landfill name: _____

b. Contact person: _____

Title: _____

Phone: (_____) _____

Contact is: _____ Landfill Owner _____ Landfill Operator

c. Mailing address:

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

d. Landfill location.

Street or Route #: _____

County: _____

City or Town: _____ State: _____ Zip: _____

e. Total dry metric tons per 365-day period of sewage sludge placed in this municipal solid waste landfill:

_____ dry metric tons

f. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the operation of this municipal solid waste landfill:

Permit Number: Type of Permit:

_____ _____

_____ _____

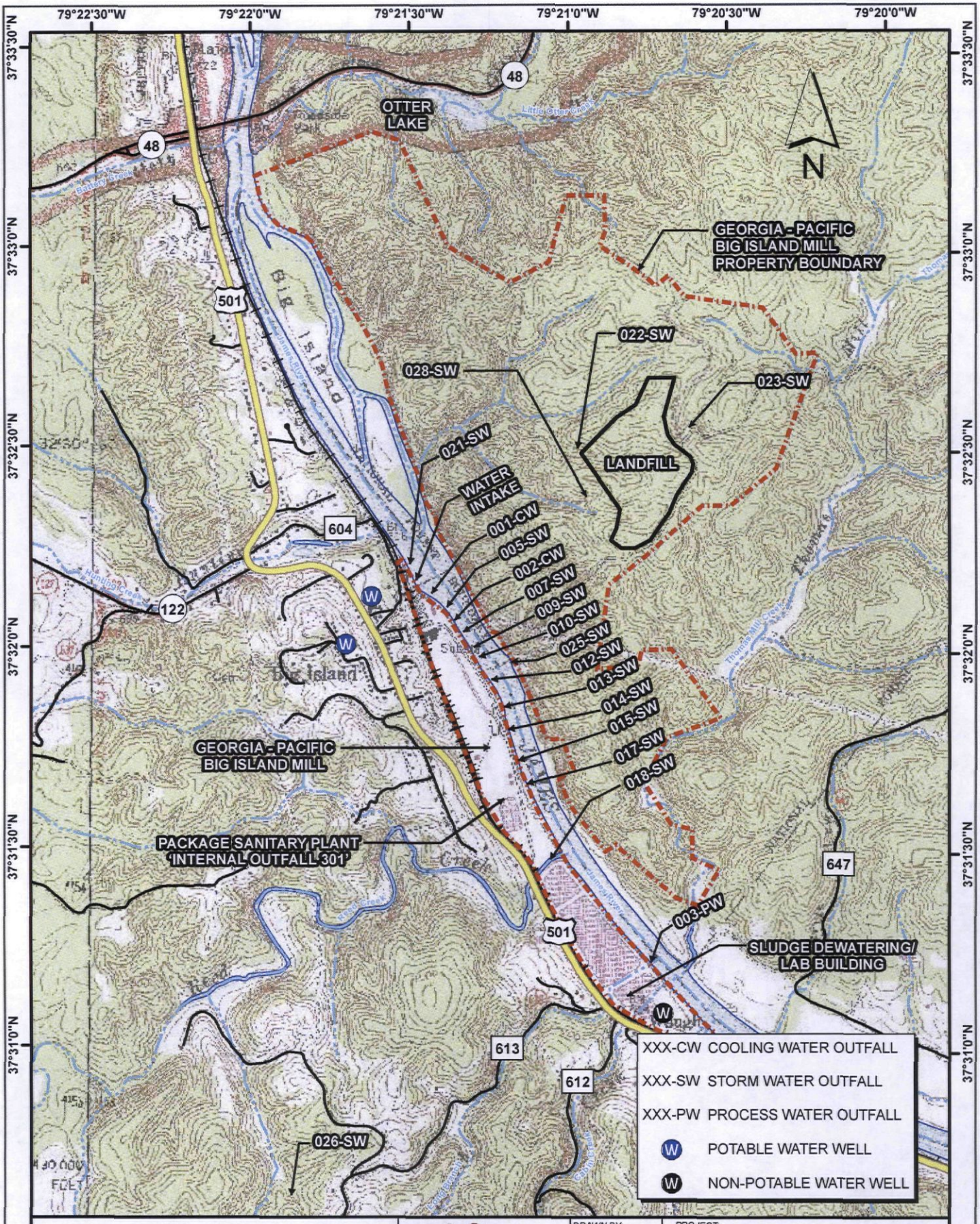
g. Does sewage sludge meet applicable requirements in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq., concerning the quality of materials disposed in a municipal solid waste landfill?
_____ Yes _____ No

h. Does the municipal solid waste landfill comply with all applicable criteria set forth in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq.? _____ Yes _____ No

i. Will the vehicle bed or other container used to transport sewage sludge to the municipal solid waste landfill be watertight and covered? _____ Yes _____ No

Show the haul route(s) on a location map or briefly describe the route below and indicate the days of the week and time of the day sewage sludge will be transported. _____

_____



IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED

U.S. Geological Survey. 1:24,000. 7.5 Minute Series

2,000 0 2,000 Feet

ENGINEERS SURVEYORS PLANNERS
ASSOCIATES
P. O. Box 4119, Lynchburg, Va. 24502, Phone: 434.316-6060
1402 Greenbrier Place, Charlottesville, Va. 22901, Phone: 434.984.2700
www.wwassociates.net

DRAWN BY: CLP	PROJECT: GEORGIA - PACIFIC BIG ISLAND PAPER MILL		
REVIEWED BY: HFW			
FILE NAME: USGSMap.mxd	TITLE: GP ~ OUTFALLS		
PROJECT NUMBER: 209078.00	Scale: 1" = 2,000 FT	Date: 11/17/09	Figure: 3 - 1

SLUDGE DISPOSAL PLAN FOR
GP BIG ISLAND, LLC
SANITARY TREATMENT PLANT

Aerated Sludge Holding Tank:

Volume = 1070 c.f. or 8000 gallons
Aeration is by diffused aeration providing 32 cfm.

QUANTITY & QUALITY OF SLUDGE

Based on the flows to the treatment system, and system operations at the package plant, the operator will waste sludge as needed to maintain operations. On average 7,500 gallons of sludge may be generated in a month's time. This quantity may also change depending on system operation or maintenance being performed.

If sludge monitoring/analysis is not performed to classify the sludge, it will be assumed that the sludge will meet the requirements of Class B sludge as defined in the Commonwealth of Virginia Sewage Regulations, Section 25.07.05 as the sludge is not totally stabilized. Partially digested waste activated sludge is pumped from the aerated holding tank into a tank truck and is discharged into the City of Lynchburg Wastewater treatment plant.

SLUDGE REMOVAL

The sludge holding tank has a capacity of 8,000 gallons. Sludge may be pumped from the tank around 12 times per year. Visual inspection by the operator will determine when pumping must be accomplished. The exact day of the sludge pumping will be noted in plant records.

SLUDGE HAULING

Sludge pumping and hauling will be accomplished by a reputable septic tank service company to be determined at the time of pumping. Companies that will be considered based on availability today are:

Wilson Septic Tank Service
P.O. Box 4619
Lynchburg, VA 24502

It is explicitly understood that GP Big Island, LLC will have final responsibility to insure that the sludge is disposed correctly.

The hauling contractor will haul the sludge in a non-spill, watertight tank mounted on a truck normally used for such operation. They will haul it to the City of Lynchburg Wastewater Treatment Plant owned by the City of Lynchburg where it will be delivered to the treatment site in accordance with the attached agreement.

TRANSPORTATION ROUTE & TIMES

The normal route used for hauling the sludge is shown on the attached map and as briefly described below. The approximate distance from the GP facility to the Lynchburg WWTP is twenty miles.

Proceed south on Highway 501 and then turn east on Boonsboro Road/Rivermont Avenue. Turn left on 5th street, then go east on Commerce St, and north on Washington St which becomes Concord Turnpike. City of Lynchburg Wastewater Treatment Plant is 2301 Concord Turnpike.

SLUDGE TREATMENT

After reaching the City of Lynchburg Sewage Treatment Plant, the hauling contractor will pay the City of Lynchburg a set fee per gallon of sludge delivered. The contractor will be responsible for meeting all requirements placed on him by the City of Lynchburg which include:

1. Checking and maintaining the proper pH before dumping of approximately 7.0.
2. Cleanup of any spillage during delivery or performing any other cleanup operations deemed necessary by the City of Lynchburg due to the delivery of sludge.

After delivery of the sludge, the City of Lynchburg will be solely responsible for final disposal of our sludge.

SLUDGE DISPOSAL

Land application of sludge shall be in accordance with the Virginia Sewage Regulations adopted jointly by the State Health Department and Water Control Board. Direct land application of Class B sludge is not permitted. Identification of sludge as Class A must be confirmed by approved monitoring and testing.

THE CITY OF LYNCHBURG, VIRGINIA

2301 Concord Turnpike, Lynchburg, VA 24504
www.lynchburgva.gov
TEL: 434-455-6240
FAX: 434-847-1750

DEPARTMENT OF UTILITIES
REGIONAL WASTEWATER TREATMENT PLANT

December 10, 2009

Contract Truck Hauled Waste

Customer Name/Address: **GP Big Island, LLC**
9363 Lee Jackson Hwy
Big Island, Virginia 24526

Contract Hauled Waste Disposal Application Date: **December 4, 2009**

Type(s) of wastes approved for disposal at the Lynchburg Wastewater Treatment Facility: **Digested sludge from sanitary sewage extended aeration package plant.**

Disposal provisions are as follows:

A. Transportation and Identification of Wastewater

1. Waste will be transported to the treatment facility using haulers permitted by the Lynchburg Wastewater Treatment Facility.

2. The waste will be accompanied by a signed manifest form, identifying the source of the wastewater. The signature on the manifest form must be that of a responsible employee of **GP Big Island, LLC**.

B. Evaluation of Wastewater Strengths and Acceptability

1. One (1) sample for ten (10) or less loads per month, or ten (10%) of the total loads received at the treatment facility per month will be analyzed for Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), and Total Suspended Solids (TSS). All loads will be tested for pH.

2. Loads exhibiting any of the characteristics prohibited in Section F, Industrial Discharges and also with any applicable provisions of Federal or State laws or regulations will not be accepted.

3. The City reserves the right to require additional testing at the expense of the **GP Big Island, LLC** if such testing is deemed necessary by the City.

C. Billing

1. Charges for BOD and TSS will be based on the current surcharge rate per hundred (100) pounds for BOD and TSS, as established by Lynchburg City Council. The maximum volume capacity of any vehicle used to transport the waste will be used for the volume of wastewater. No charge less than the base septage rate will apply to any load regardless of strength.

2. An administrative charge of fifteen percent will be assessed to the monthly bill when the treatment charge exceeds the minimum load charge.

3. Monthly bills not paid by the due date will result in suspension of discharge services until such bill has been paid at Collections in city Hall.

4. When Lynchburg City Council changes the surcharge or base septage rates, billing adjustments will begin on the effective date mandated by the Council.

D. Right to Deny Services

1. A State or Federal Agency informs the City that the effluent from Lynchburg's Regional Wastewater Treatment Plant is no longer of a quality permitted for discharge into the James River.

2. Noncompliance with discharge regulations.

3. A determination that the further receipt of this wastewater endangers human health or the environment, causes interference to the wastewater treatment facilities or causes the City to violate any condition of its VPDES permit.

4. When the Lynchburg Wastewater Facility reaches 85% of its total capacity for BOD and/or TSS.

E. General Restrictions

Wastes with the following characteristics will not be discharged:

1. Wastewater from any industrial or commercial source except where conditions outlined in Section F have been met, and written permission has been granted by the City of Lynchburg.

2. Wastewater containing fats, wax, grease, or oils of petroleum origin and or excess of one hundred (100) mg/l or containing substances which may solidify or become viscous at temperatures between thirty-two (32°F) degrees and one hundred forty (140°F) degrees Fahrenheit (0°degrees and 60° degrees Centigrade).

3. Containing any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquids, solids, or gases.

4. Waters or wastes which are not amenable to treatment or reduction by the wastewater treatment processes employed, or are amenable to treatment only to such degree that the wastewater treatment plant effluent cannot meet the requirements of agencies having jurisdiction over discharge to the receiving waters.

5. Material considered a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA)

F. Industrial Discharges

1. For the purposes of definition, an Industrial Source is any nonresidential user identified in Division A, B, D, E, or I of the Standard Industrial Classification Manual, or any user which discharges wastewater containing toxic or poisonous substances, or any substance(s) which cause(s) interference in the wastewater facilities.

   In order for the Lynchburg Wastewater Treatment Facility to accept a discharge from an Industrial Source, the following conditions must be met:

   Any person desiring to dispose of wastes from an Industrial Source into the Wastewater Treatment Facility, through a waste hauler, shall request, through a written application to the Utilities Director, permission to discharge these wastes. The application shall contain sufficient information to adequately characterize the waste, shall include a process flow diagram, and shall specifically identify the truck hauler to be contracted. The designated waste hauler must possess a valid Septage Hauler Discharge Permit. One-time special discharges must have permission from designated WWTP personnel and 24 hours notice. Discharge of Industrial Wastes will be subject to the following criteria:

a. Hazardous Waste

The waste must not exhibit any of the characteristics which designate a waste as hazardous under the Resource Conservation and Recovery Act (RCRA). Those characteristics are as follows:

Corrosivity: Any liquid wastes having a pH lower than 2.0 or greater than 12.5, or which corrodes steel at a rate greater than 6.35 millimeters per year at a temperature of 55° C.

Ignitability: A liquid with a flash point less than 140° F, an ignitable compressed gas, an oxidizer, or a substance that is capable of causing fire through friction, absorption of moisture, or spontaneous chemical changes under standard temperature and pressure conditions.

Reactivity: Any wastes which are normally unstable and readily undergoes violent change without detonating, which reacts violently with water, forms potentially explosive mixtures with water, or which generates toxic gases, vapors, or fumes when mixed with water.

Toxicity Characterization Leaching Procedure (TCLP toxicity): Any waste which fail the TCLP procedure as defined by the EPA.

b. Categorical Industrial Wastes

Wastes from Federal Categorical Industries, as designated in 40 CFR 403, under the Clean Water Act, must meet the same limitations as specified for that categorical type of waste under Federal, State, and Local regulations as they pertain to discharge into the Lynchburg Wastewater Treatment Facilities.

c. Other Industrial, Commercial, or Non Household Wastes

Requests for the discharge of hauled wastes from, but not limited to, groundwater contamination from underground storage tanks or other underground leaks, leachate from landfill operations, sludges from wastewater treatment operations, agricultural runoff waters or any other surface water runoff, wastes form commercial food processing activities, rendering wastes, contaminated or rejected commercial products or other obsolete commercial raw materials, machine tooling lubricants, commercial cleaning solutions, and/or antifreezes will be evaluated using best guidance information available, will be subject to the best professional management practices, and will require prior written approval from the Utilities Director before discharge can be accepted.

d. Additional Requirements

It shall be the standard practice that hauled Industrial Wastes shall not be mixed with any other wastes prior to discharge at the Lynchburg Wastewater Treatment Facility.

Google maps

Directions to 2301 Concord Turnpike, Lynchburg, VA 24501
18.6 mi – about 36 mins

DELEGATION AND AUTHORIZATION

December 22, 2009

This is to confirm that the position of EHS Manager or Environmental Manager performs the duties of the manager of the environmental compliance programs for this facility and is responsible for the overall operations of the wastewater treatment facility. As such, the person(s) filling these positions are authorized to sign VPDES Permit DMR forms, and other reports and permit information related to environmental matters for all operations of the GP Big Island, LLC facility. This authority to sign such documents has been assigned or delegated to the above referenced positions in accordance with the procedures of Georgia-Pacific LLC.

Brent A. Collins
Vice Pres. – Manuf.
GP Big Island, LLC

NALCO

MATERIAL SAFETY DATA SHEET

PRODUCT

Tri-ACT(R) 1825

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **Tri-ACT(R) 1825**

APPLICATION : CORROSION INHIBITOR

COMPANY IDENTIFICATION : Nalco Company
1601 W. Diehl Road
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 3 / 3 FLAMMABILITY : 2 / 2 INSTABILITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Cyclohexylamine	108-91-8	30.0 - 60.0
Diethylethanolamine	100-37-8	10.0 - 30.0
Morpholine	110-91-8	10.0 - 30.0

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

DANGER
Corrosive. Combustible. May cause tissue damage. Harmful if absorbed through skin. Vapors may have a strong offensive odor which may cause sensory response including headache, nausea and vomiting.
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Keep away from sources of ignition - No smoking. Keep away from heat. Keep container tightly closed and in a well-ventilated place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Protect product from freezing.
Wear a face shield. Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots.
Combustible Liquid; may form combustible mixtures at or above the flash point. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin, Inhalation

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
Corrosive. Will cause eye burns and permanent tissue damage. Exposure to low vapor concentrations can result in foggy or blurred vision, objects appearing bluish and appearance of a halo around lights. These symptoms are temporary.

SKIN CONTACT :
May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered. Harmful if absorbed through skin.

INGESTION :
Not a likely route of exposure. Corrosive; causes chemical burns to the mouth, throat and stomach.

INHALATION :
Irritating, in high concentrations, to the eyes, nose, throat and lungs. Vapors may have a strong offensive odor which may cause sensory response including headache, nausea and vomiting.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

4. FIRST AID MEASURES

EYE CONTACT :
PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Immediately flush eye with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

SKIN CONTACT :
Immediately flush with plenty of water for at least 15 minutes. For a large splash, flood body under a shower. Remove contaminated clothing. Wash off affected area immediately with plenty of water. Get immediate medical attention. Contaminated clothing, shoes, and leather goods must be discarded or cleaned before re-use.

INGESTION :
DO NOT INDUCE VOMITING. If conscious, washout mouth and give water to drink. Get immediate medical attention.

INHALATION :
Remove to fresh air, treat symptomatically. Get medical attention.

NOTE TO PHYSICIAN :
Probable mucosal damage may contraindicate the use of gastric lavage. Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : 119 °F / 49 °C (PMCC)

EXTINGUISHING MEDIA :
Dry powder, Carbon dioxide, Foam, Other extinguishing agent suitable for Class B fires, For large fires, use water spray or fog, thoroughly drenching the burning material.
Keep containers cool by spraying with water.

FIRE AND EXPLOSION HAZARD :
Combustible Liquid; may form combustible mixtures at or above the flash point. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Remove sources of ignition. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :
Do not get in eyes, on skin, on clothing. Do not take internally. Do not breathe vapors/gases/dust. Use with adequate ventilation. Avoid generating aerosols and mists. Keep away from acids and oxidizing agents. Do not use, store, spill or pour near heat, sparks or open flame. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

STORAGE CONDITIONS :
Store the containers tightly closed. Store away from heat and sources of ignition. Use proper grounding procedures. Store separately from acids. Store separately from oxidizers. Amine and sulphite products should not be stored within close proximity or resulting vapors may form visible airborne particles.

UNSUITABLE CONSTRUCTION MATERIAL :
Copper, Brass, Bronze, and their alloys

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

ACGIH/TLV :

Substance(s)	
Cyclohexylamine	TWA: 10 ppm , 41 mg/m3
Morpholine	TWA: 20 ppm , 71 mg/m3 (Skin)
Diethylethanolamine	TWA: 2 ppm , 9.6 mg/m3 (Skin)

OSHA/PEL :

Substance(s)	
Cyclohexylamine	TWA: 10 ppm , 40 mg/m3
Morpholine	TWA: 20 ppm , 70 mg/m3 (Skin) STEL: 30 ppm , 105 mg/m3 (Skin)
Diethylethanolamine	TWA: 10 ppm , 50 mg/m3 (Skin)

* A skin notation refers to the potential significant contribution to overall exposure by the cutaneous route, including mucous membranes and the eyes.

ENGINEERING MEASURES :
General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

RESPIRATORY PROTECTION :
If significant mists, vapors or aerosols are generated an approved respirator is recommended. An organic vapor cartridge with dust/mist prefilter or supplied air may be used. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION :
Butyl gloves, Most glove materials are of low chemical resistance. Replace gloves regularly.

SKIN PROTECTION :
Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots. A full slicker suit is recommended if gross exposure is possible.

EYE PROTECTION :
Wear a face shield with chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Eye wash station and safety shower are necessary. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is: Moderate

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Clear Light Gold
ODOR	Amine

SPECIFIC GRAVITY	0.94 @ 77 °F / 25 °C
DENSITY	7.8 lb/gal
SOLUBILITY IN WATER	Complete
pH (1 %)	11.1
pH (100 %)	13.7
VISCOSITY	9 cps @ 77 °F / 25 °C
FREEZING POINT	27 °F / -3 °C
VAPOR PRESSURE	6.5 mm Hg @ 68 °F / 20 °C 18.5 mm Hg @ 100 °F / 38 °C 81 mm Hg @ 150 °F / 66 °C
VOC CONTENT	79.7 % Calculated

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Heat and sources of ignition including static discharges.

MATERIALS TO AVOID :
Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors. Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Avoid contact with SO2 or acidic bisulfite products, which may react to form visible airborne amine salt particles. Certain amines in contact with nitrous acid, organic or inorganic nitrites or atmospheres with high nitrous oxide concentrations may produce N-nitrosamines, many of which are cancer-causing agents to laboratory animals.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon, Oxides of nitrogen

11. TOXICOLOGICAL INFORMATION

The following results are for the product.

ACUTE ORAL TOXICITY :

Species	LD50	Test Descriptor
Rat	440 mg/kg	Product

Rating : Toxic

ACUTE DERMAL TOXICITY :

Species	LD50	Test Descriptor
Rabbit	< 2,000 mg/kg	Product

Rating : Harmful

PRIMARY SKIN IRRITATION :

Draize Score	Test Descriptor
8.0 / 8.0	Product

Rating : Extremely irritating (Corrosive)

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :
Based on our hazard characterization, the potential human hazard is: High

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Fathead Minnow	96 hrs	75 mg/l	Product
Rainbow Trout	96 hrs	130 mg/l	Product

Inland Silverside	96 hrs	362.5 mg/l	Product

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs		61 mg/l	Product
Mysid Shrimp (Mysidopsis bahia)	96 hrs	212.5 mg/l		Product

PERSISTENCY AND DEGRADATION :

Chemical Oxygen Demand (COD) : 1,000,000 mg/l

Biological Oxygen Demand (BOD) :

Incubation Period	Value	Test Descriptor
5 d	887,500 mg/l	10 ppm Aqueous Solution of Product
10 d	905,500 mg/l	10 ppm Aqueous Solution of Product
28 d	0 mg/l	10 ppm Aqueous Solution of Product

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Moderate
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: High

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste: D001, D002

Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT :

Proper Shipping Name : AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.
Technical Name(s) : CYCLOHEXYLAMINE, DIETHYLAMINOETHANOL, MORPHOLINE

UN/ID No :	UN 2734
Hazard Class - Primary :	8
Hazard Class - Secondary :	3
Packing Group :	II
Flash Point :	49 °C / 119 °F
DOT Reportable Quantity (per package) :	228 lbs
DOT RQ Component :	CYCLOHEXYLAMINE

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.
Technical Name(s) :	CYCLOHEXYLAMINE, DIETHYLAMINOETHANOL, MORPHOLINE
UN/ID No :	UN 2734
Hazard Class - Primary :	8
Hazard Class - Secondary :	3
Packing Group :	II
IATA Cargo Packing Instructions :	812
IATA Cargo Aircraft Limit :	30 L (Max net quantity per package)

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.
Technical Name(s) :	CYCLOHEXYLAMINE, DIETHYLAMINOETHANOL, MORPHOLINE
UN/ID No :	UN 2734
Hazard Class - Primary :	8
Hazard Class - Secondary :	3
Packing Group :	II

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Cyclohexylamine : Corrosive, Flammable
Diethylethanolamine : Combustible., Corrosive
Morpholine : Corrosive, Flammable

CERCLA/SUPERFUND, 40 CFR 117, 302 :
This product contains the following Reportable Quantity (RQ) Substance. Also listed is the RQ for the product. If a reportable quantity of product is released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D.C. (1-800-424-8802).

RQ Substance	RQ
Cyclohexylamine	228 lbs

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product contains the following substance(s) which is listed in Appendix A and B as an Extremely Hazardous Substance. Listed below are the statutory Threshold Planning Quantity (TPQ) for the substance(s) and the Reportable Quantity (RQ) of the product.

Extremely Hazardous Substance	TPQ	RQ
Cyclohexylamine	10,000 lbs	22,841 lbs

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following indicated EPA hazard categories:

X	Immediate (Acute) Health Hazard
-	Delayed (Chronic) Health Hazard
X	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act :
When use situations necessitate compliance with FDA regulations, this product is acceptable under : 21 CFR 173.310 Boiler Water Additives

The following limitations apply:

Maximum dosage	Limitation
22 PPM	as product in the steam

This product can not be used where the steam produced will contact milk or milk products.

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :
None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
This product contains the following substances listed in the regulation:

Substance(s)	Citations
• Cyclohexylamine	Sec. 111
• Morpholine	Sec. 111

CALIFORNIA PROPOSITION 65 :
This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :
The following substances are disclosed for compliance with State Right to Know Laws:

Water	7732-18-5
Cyclohexylamine	108-91-8
Morpholine	110-91-8
Diethylethanolamine	100-37-8

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
B3 - Combustible Liquids, E - Corrosive Material, D1B - Materials Causing Immediate and Serious Toxic Effects - Toxic Material

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

16. OTHER INFORMATION

F701148

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Moderate

* The environmental risk is: Moderate

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

NALCO

MATERIAL SAFETY DATA SHEET

PRODUCT

Tri-ACT(R) 1825

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

Prepared By : Product Safety Department
Date issued : 01/07/2008
Version Number : 1.14

NALCO

SAFETY DATA SHEET

PRODUCT

NexGuard® 22310

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NexGuard® 22310**

APPLICATION : BOILER WATER INTERNAL TREATMENT

COMPANY IDENTIFICATION : Nalco Company
1601 W. Diehl Road
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 0 / 1 FLAMMABILITY : 1 / 1 INSTABILITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme * = Chronic Health Hazard

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

CAUTION
May cause irritation with prolonged contact.
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water.
Wear suitable protective clothing.
May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of sulfur (SOx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
May cause irritation with prolonged contact.

SKIN CONTACT :
May cause irritation with prolonged contact.

INGESTION :
Not a likely route of exposure. No adverse effects expected.

INHALATION :
Not a likely route of exposure. No adverse effects expected.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

4. FIRST AID MEASURES

EYE CONTACT :
Flush affected area with water. If symptoms develop, seek medical advice.

SKIN CONTACT :
Flush affected area with water. If symptoms develop, seek medical advice.

INGESTION :
Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. Get medical attention.

INHALATION :
Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN :
Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : None

EXTINGUISHING MEDIA :
This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :
May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of sulfur (SOx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Stop or reduce any leaks if it is safe to do so. Do not touch spilled material. Ventilate spill area if possible. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection).

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :
Avoid eye and skin contact. Do not take internally. Ensure all containers are labeled. Keep the containers closed when not in use. Use with adequate ventilation.

STORAGE CONDITIONS :
Protect product from freezing. Store the containers tightly closed. Store in suitable labeled containers.

SUITABLE CONSTRUCTION MATERIAL :
PVC, Stainless Steel 304, EPDM, Buna-N, HDPE (high density polyethylene), Polyurethane, Hypalon, Viton, Neoprene, Polypropylene, Polyethylene, Stainless Steel 316L, 100% phenolic resin liner, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

UNSUITABLE CONSTRUCTION MATERIAL :
Brass, Mild steel, Epoxy phenolic resin

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
This product does not contain any substance that has an established exposure limit.

ENGINEERING MEASURES :
General ventilation is recommended.

RESPIRATORY PROTECTION :
Respiratory protection is not normally needed.

HAND PROTECTION :
When handling this product, the use of chemical gloves is recommended. The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from PVC Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers.

SKIN PROTECTION :
Wear standard protective clothing.

EYE PROTECTION :
When handling this product, the use of safety glasses with side shields is recommended.

HYGIENE RECOMMENDATIONS :
Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is: Moderate

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Fluorescent Orange Yellow
ODOR	Normally None, however residual ammonia may be present in headspace of newly opened containers

SPECIFIC GRAVITY	1.19 @ 77 °F / 25 °C
DENSITY	9.9 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	10.5
FREEZING POINT	22 °F / -6 °C
VAPOR PRESSURE	Same as water
VOC CONTENT	0 % Calculated

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Freezing temperatures.

MATERIALS TO AVOID :
Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon, Oxides of sulfur

11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.

SENSITIZATION :
This product is not expected to be a sensitizer.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :
Based on our hazard characterization, the potential human hazard is: Low

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Rainbow Trout	96 hrs	7,070 mg/l	Product
Fathead Minnow	96 hrs	1,086 mg/l	Product
Inland Silverside	96 hrs	> 5,000 mg/l	Product

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	1,650 mg/l		Product
Mysid Shrimp (Mysidopsis bahia)	96 hrs	> 5,000 mg/l		Product

AQUATIC PLANT RESULTS :

Species	Exposure	EC50/LC50	Test Descriptor
Algae	72 hrs	10 mg/l	

PERSISTENCY AND DEGRADATION :

Total Organic Carbon (TOC) : 87,000 mg/l

Chemical Oxygen Demand (COD) : 240,000 mg/l

Biological Oxygen Demand (BOD) :

Incubation Period	Value	Test Descriptor
5 d	6,200 mg/l	Product

The organic portion of this preparation is expected to be poorly biodegradable.

MOBILITY :
The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	Water	Soil/Sediment
<5%	30 - 50%	50 - 70%

The portion in water is expected to be soluble or dispersible.

BIOACCUMULATION POTENTIAL
This preparation or material is not expected to bioaccumulate.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Low
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Moderate

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. REGULATORY INFORMATION

This section contains additional information that may have relevance to regulatory compliance. The information in this section is for reference only. It is not exhaustive, and should not be relied upon to take the place of an individualized compliance or hazard assessment. Nalco accepts no liability for the use of this information.

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

CERCLA/SUPERFUND, 40 CFR 117, 302 :
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

- Immediate (Acute) Health Hazard
- Delayed (Chronic) Health Hazard
- Fire Hazard
- Sudden Release of Pressure Hazard

- Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act :
When use situations necessitate compliance with FDA regulations, this product is acceptable under : 21 CFR 173.310 Boiler Water Additives

The following limitations apply:

Maximum dosage	Limitation
1000 PPM	as product in the boilerwater

The polymer must not be used at pressures above 1,000 PSIG (6895 kPa).

NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds) :
NSF Registration number for this product is : 121221
This product is acceptable for use in meat, poultry, and other food processing areas as a Boiler Treatment Product (G6), for treating boiler and steam lines where the steam produced may contact edible products. Acceptable usage shall be in accordance with the dosage limitations specified on the product label.

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :
This product may contain trace levels (<0.1% for carcinogens, <1% all other substances) of the following substance(s) listed under the regulation. Additional components may be unintentionally present at trace levels.

Substance(s)	Citations
• Sodium Hydroxide	Sec. 311

CLEAN AIR ACT, Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

CALIFORNIA PROPOSITION 65 :
Substances listed under California Proposition 65 are not intentionally added or expected to be present in this product.

MICHIGAN CRITICAL MATERIALS :
Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

STATE RIGHT TO KNOW LAWS :
The following substances are disclosed for compliance with State Right to Know Laws:

Sodium Sulfate	7757-82-6

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
Not considered a WHMIS controlled product.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CHINA
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on the Inventory of Existing Chemical Substances China (IECSC).

EUROPE
The substance(s) in this preparation are included in or exempted from the EINECS or ELINCS inventories

JAPAN
This product contains substance(s) which are not in compliance with the Law Regulating the Manufacture and Importation Of Chemical Substances and are not listed on the Existing and New Chemical Substances list (ENCS).

KOREA
This product contains substance(s) which are not in compliance with the Toxic Chemical Control Law (TCCL) and may require additional review.

NEW ZEALAND
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.

PHILIPPINES
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

16. OTHER INFORMATION

Nalco Internal Number F105654

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Low

* The environmental risk is: Low

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department
Date issued : 07/31/2009
Version Number : 1.25

NALCO

MATERIAL SAFETY DATA SHEET

PRODUCT

CONQUOR® CNQR3588

EMERGENCY TELEPHONE NUMBER(S)
(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **CONQUOR® CNQR3588**

APPLICATION : CORROSION INHIBITOR

COMPANY IDENTIFICATION : Nalco Company
1601 W. Diehl Road
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 3 / 3 FLAMMABILITY : 2 / 2 INSTABILITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Cyclohexylamine	108-91-8	10.0 - 30.0
Methoxypropylamine	5332-73-0	10.0 - 30.0
Diethyl-Hydroxyl-Amine	3710-84-7	1.0 - 5.0

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

DANGER
Corrosive. Combustible. May cause tissue damage. Harmful if absorbed through skin. Vapors may have a strong offensive odor which may cause sensory response including headache, nausea and vomiting.
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Keep away from sources of ignition - No smoking. Keep away from heat. Keep container tightly closed and in a well-ventilated place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water.
Wear a face shield. Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots. Combustible Liquid; may form combustible mixtures at or above the flash point. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. May evolve ammonia (NH4) under fire conditions. Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin, Inhalation

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
Corrosive. Will cause eye burns and permanent tissue damage.

SKIN CONTACT :
May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered. Harmful if absorbed through skin.

INGESTION :
Not a likely route of exposure. Corrosive; causes chemical burns to the mouth, throat and stomach.

INHALATION :
Irritating, in high concentrations, to the eyes, nose, throat and lungs. Vapors may have a strong offensive odor which may cause sensory response including headache, nausea and vomiting.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

4. FIRST AID MEASURES

EYE CONTACT :
PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Immediately flush eye with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

SKIN CONTACT :
Immediately flush with plenty of water for at least 15 minutes. For a large splash, flood body under a shower. Remove contaminated clothing. Wash off affected area immediately with plenty of water. Get immediate medical attention. Contaminated clothing, shoes, and leather goods must be discarded or cleaned before re-use.

INGESTION :
DO NOT INDUCE VOMITING. If conscious, washout mouth and give water to drink. Get immediate medical attention.

INHALATION :
Remove to fresh air, treat symptomatically. Get medical attention.

NOTE TO PHYSICIAN :
Probable mucosal damage may contraindicate the use of gastric lavage. Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : 158 °F / 70 °C (PMCC)

EXTINGUISHING MEDIA :
Dry powder, Carbon dioxide, Foam, Other extinguishing agent suitable for Class B fires, For large fires, use water spray or fog, thoroughly drenching the burning material.
Keep containers cool by spraying with water.

FIRE AND EXPLOSION HAZARD :
Combustible Liquid; may form combustible mixtures at or above the flash point. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. May evolve ammonia (NH4) under fire conditions. Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Remove sources of ignition. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :
Do not get in eyes, on skin, on clothing. Do not take internally. Do not breathe vapors/gases/dust. Use with adequate ventilation. Avoid generating aerosols and mists. Keep away from acids and oxidizing agents. Do not use, store, spill or pour near heat, sparks or open flame. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

STORAGE CONDITIONS :
Store the containers tightly closed. Store away from heat and sources of ignition. Use proper grounding procedures. Store separately from acids. Store separately from oxidizers. Amine and sulphite products should not be stored within close proximity or resulting vapors may form visible airborne particles.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

ACGIH/TLV :

Substance(s)	
Cyclohexylamine	TWA: 10 ppm , 41 mg/m3

OSHA/PEL :

Substance(s)	
Cyclohexylamine	TWA: 10 ppm , 40 mg/m3

AIHA/WEEL :

Substance(s)	
Methoxypropylamine	TWA: 5 ppm STEL: 15 ppm

:
Substance(s)

ENGINEERING MEASURES :
General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

RESPIRATORY PROTECTION :
If significant mists, vapors or aerosols are generated an approved respirator is recommended. An organic vapor cartridge with dust/mist prefilter or supplied air may be used. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection. HALF-FACE MASK WITH BLACK CARTRIDGE AND PREFILTER

HAND PROTECTION :
Butyl gloves, Most glove materials are of low chemical resistance. Replace gloves regularly. Neoprene gloves

SKIN PROTECTION :
Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots. A full slicker suit is recommended if gross exposure is possible.

EYE PROTECTION :
Wear a face shield with chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Eye wash station and safety shower are necessary. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Clear Light yellow
ODOR	Amine

SPECIFIC GRAVITY	0.949 - 0.961
DENSITY	7.9 - 8.01 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	12.8 - 13.0
INITIAL BOILING POINT	205 °F /
VAPOR PRESSURE	24.8 mm Hg
VOC CONTENT	46 %

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Heat and sources of ignition including static discharges.

MATERIALS TO AVOID :
Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors. Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Avoid contact with SO2 or acidic bisulfite products, which may react to form visible airborne amine salt particles. Certain amines in contact with nitrous acid, organic or inorganic nitrites or atmospheres with high nitrous oxide concentrations may produce N-nitrosamines, many of which are cancer-causing agents to laboratory animals.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon, Oxides of nitrogen, ammonia

11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.

SENSITIZATION :
This product is not expected to be a sensitizer.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

MUTAGENICITY :
A mutagenicity test battery on cyclohexylamine was inconclusive. In a short-term test, cyclohexylamine caused mutation in human white blood cells. A bacterial mutagenicity (Ames) bioassay was negative for methoxypropylamine.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Fathead Minnow	96 hrs	220 mg/l	Product

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Ceriodaphnia dubia	48 hrs	157 mg/l		Product
Daphnia magna	48 hrs	274 mg/l		Product

CHRONIC FISH RESULTS :

Species	Exposure	NOEC / LOEC	End Point	Test Descriptor
Fathead Minnow	7 Days	50 mg/l / 100 mg/l	Growth	Product

CHRONIC INVERTEBRATE RESULTS :

Species	Test Type	NOEC / LOEC	End Point	Test Descriptor
Ceriodaphnia dubia	3 Brood	12.5 mg/l / 25 mg/l	Reproduction	Product

PERSISTENCY AND DEGRADATION :

Chemical Oxygen Demand (COD) : 1,100,000 mg/l

Biological Oxygen Demand (BOD) :

Incubation Period	Value	Test Descriptor
5 d	11,200 mg/l	Product

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste: D002

Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT :

Proper Shipping Name :	AMINES, LIQUID, CORROSIVE, N.O.S.
Technical Name(s) :	CYCLOHEXYLAMINE, METHOXYPROPYLAMINE
UN/ID No :	UN 2735
Hazard Class - Primary :	8
Packing Group :	III
Flash Point :	70 °C / 158 °F

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	AMINES, LIQUID, CORROSIVE, N.O.S.
Technical Name(s) :	CYCLOHEXYLAMINE, METHOXYPROPYLAMINE
UN/ID No :	UN 2735
Hazard Class - Primary :	8
Packing Group :	III
IATA Cargo Packing Instructions :	820
IATA Cargo Aircraft Limit :	60 L (Max net quantity per package)

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	AMINES, LIQUID, CORROSIVE, N.O.S.
Technical Name(s) :	CYCLOHEXYLAMINE, METHOXYPROPYLAMINE
UN/ID No :	UN 2735
Hazard Class - Primary :	8
Packing Group :	III

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Cyclohexylamine : Corrosive, Flammable
Methoxypropylamine : Corrosive, Flammable
Diethyl-Hydroxyl-Amine : Irritant, Combustible.

CERCLA/SUPERFUND, 40 CFR 117, 302 :
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product contains the following substance(s) which is listed in Appendix A and B as an Extremely Hazardous Substance. Listed below are the statutory Threshold Planning Quantity (TPQ) for the substance(s) and the Reportable Quantity (RQ) of the product.

Extremely Hazardous Substance	TPQ	RQ
Cyclohexylamine	10,000 lbs	10,000 lbs

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following indicated EPA hazard categories:

X	Immediate (Acute) Health Hazard
-	Delayed (Chronic) Health Hazard
X	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds) :
NSF Registration number for this product is : 122079

This product is acceptable for treating boilers, steam lines, and/or cooling systems (G7) where neither the treated water nor the steam produced may contact edible products in and around food processing areas.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :
None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
This product contains the following substances listed in the regulation:

Substance(s)	Citations
• Cyclohexylamine	Sec. 111

CALIFORNIA PROPOSITION 65 :
This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :
The following substances are disclosed for compliance with State Right to Know Laws:

Cyclohexylamine	108-91-8
Methoxypropylamine	5332-73-0

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
B3 - Combustible Liquids, E - Corrosive Material

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

16. OTHER INFORMATION

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department
Date issued : 03/31/2005
Version Number : 1.7

NALCO

SAFETY DATA SHEET

PRODUCT

NALCO® 1720

EMERGENCY TELEPHONE NUMBER(S)
(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NALCO® 1720**

APPLICATION : OXYGEN SCAVENGER

COMPANY IDENTIFICATION : Nalco Company
1601 W. Diehl Road
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 2 / 2 FLAMMABILITY : 0 / 0 INSTABILITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme * = Chronic Health Hazard

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Sodium Bisulfite	7631-90-5	10.0 - 30.0
Potassium Bisulfite	7773-03-7	1.0 - 5.0
Cobalt Sulfate	10124-43-3	< 0.1

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

WARNING
Harmful if swallowed. Contains Sulfite. Causes asthmatic signs and symptoms in hyper-reactive individuals. May cause cancer by inhalation. Cobalt and cobalt compounds have been classified as possible carcinogens to humans (Group 2B) by IARC. The ACGIH lists cobalt and inorganic compounds as an animal carcinogen (A3).
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water.
Wear suitable protective clothing.
May evolve oxides of sulfur (SOx) under fire conditions. May evolve hydrogen sulfide (H2S) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin, Inhalation

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
Can cause mild irritation.

SKIN CONTACT :
Can cause mild irritation.

INGESTION :
Not a likely route of exposure. Contains Sulfite. May cause asthmatic-like attack. Harmful if swallowed.

INHALATION :
Irritant to respiratory system. Causes asthmatic signs and symptoms in hyper-reactive individuals. May cause cancer by inhalation.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

HUMAN HEALTH HAZARDS - CHRONIC :
This product contains cobalt compounds. The International Agency for Research on Cancer (IARC) has evaluated cobalt and cobalt compounds and found it to be a possible human carcinogen.
Ingestion of sulfite can cause a severe allergic reaction in asthmatics and some sulfite sensitive individuals. The resulting symptoms can include difficulty in breathing, flushed skin and a rash. Chronic exposure to sulfites may cause symptoms of upper respiratory disease and affect sense of taste and smell.

4. FIRST AID MEASURES

EYE CONTACT :
Immediately flush eye with water for at least 15 minutes while holding eyelids open. If irritation persists, repeat flushing. Get medical attention.

SKIN CONTACT :
Immediately flush with plenty of water for at least 15 minutes. If symptoms persist, call a physician.

INGESTION :
Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. Get medical attention.

INHALATION :
Remove to fresh air, treat symptomatically. If breathing is difficult, administer oxygen. Get medical attention.

NOTE TO PHYSICIAN :
Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : None

EXTINGUISHING MEDIA :
Not expected to burn. Use extinguishing media appropriate for surrounding fire. Keep containers cool by spraying with water.

FIRE AND EXPLOSION HAZARD :
May evolve oxides of sulfur (SOx) under fire conditions. May evolve hydrogen sulfide (H2S) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ensure adequate ventilation. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :
Avoid eye and skin contact. Do not take internally. Do not get in eyes, on skin, on clothing. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled. Keep the containers closed when not in use. Use with adequate ventilation. Do not breathe vapors/gases/dust.

STORAGE CONDITIONS :
Store the containers tightly closed. Store in suitable labeled containers. Store separately from acids. Store separately from oxidizers. Amine and sulphite products should not be stored within close proximity or resulting vapors may form visible airborne particles.

SUITABLE CONSTRUCTION MATERIAL :
Polypropylene, Buna-N, EPDM, Polyethylene, Polyurethane, PVC, Neoprene, Hypalon, Viton

UNSUITABLE CONSTRUCTION MATERIAL :
Brass, Mild steel, Stainless Steel 304, Stainless Steel 316L, 100% phenolic resin liner, Epoxy phenolic resin

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below. Exposure limits are listed for sulfur dioxide (SO2) since this product evolves SO2 when open to the atmosphere.

Country/Source	Substance(s)	Category:	ppm	mg/m3
	Sodium Bisulfite	ACGIH/TWA		5
	Sulfur Dioxide	ACGIH/STEL	0.25	
		OSHA Z1/PEL	5	13

ENGINEERING MEASURES :
General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

RESPIRATORY PROTECTION :
Where concentrations in air may exceed the limits given in this section, the use of a half face filter mask or air supplied breathing apparatus is recommended. A suitable filter material depends on the amount and type of chemicals being handled. Consider the use of filter type: Acid gas cartridge. with a Particulate pre-filter. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION :
When handling this product, the use of chemical gauntlets is recommended. The choice of work glove depends on work conditions and what chemicals are handled. Please contact the PPE manufacturer for advice on what type of glove material may be suitable. Gloves should be replaced immediately if signs of degradation are observed.

SKIN PROTECTION :
Wear standard protective clothing.

EYE PROTECTION :
Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is:
Low

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Pink Clear
ODOR	Pungent
SPECIFIC GRAVITY	1.22 - 1.28 @ 60 °F / 15.6 °C
DENSITY	10.1 - 10.7 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	3.5 - 4.1
VISCOSITY	5 cps @ 60 °F / 15 °C
FREEZING POINT	11 °F / -11 °C
BOILING POINT	205 °F / 96 °C
VOC CONTENT	0 % Calculated

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Freezing temperatures.

MATERIALS TO AVOID :
Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors. Contains Sulfite. SO2 may react with vapors from neutralizing amines and may produce a visible cloud of amine salt particles.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of sulfur, Hydrogen sulfide (H2S)

11. TOXICOLOGICAL INFORMATION

The following results are for a similar product.

ACUTE ORAL TOXICITY :

Species: Rat
LD50: 4,112 mg/kg
Test Descriptor: Similar Product

ACUTE DERMAL TOXICITY :
Species: Rabbit
LD50: > 3,000 mg/kg
Test Descriptor: Similar Product

SENSITIZATION :
Sulfites can cause an allergic reaction in sensitive individuals.

CARCINOGENICITY :
This product contains cobalt compounds. The International Agency for Research on Cancer (IARC) has evaluated cobalt and cobalt compounds and found it to be a possible human carcinogen.

HUMAN HAZARD CHARACTERIZATION :
Based on our hazard characterization, the potential human hazard is: High

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Fathead Minnow	96 hrs	382 mg/l	Product
Inland Silverside	96 hrs	> 5,000 mg/l	Product

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	728 mg/l		Product
Mysid Shrimp (Mysidopsis bahia)	96 hrs	> 5,000 mg/l		Product

MOBILITY :
The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	Water	Soil/Sediment

<5%	30 - 50%	50 - 70%

The portion in water is expected to be soluble or dispersible.

BIOACCUMULATION POTENTIAL
The product will not bioaccumulate.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Low
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: High

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

The presence of an RQ component (Reportable Quantity for U.S. EPA and DOT) in this product causes it to be regulated with an additional description of RQ for road, or as a class 9 for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

LAND TRANSPORT :

Proper Shipping Name :	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Name(s) :	SODIUM BISULFITE
UN/ID No :	UN 3082
Hazard Class - Primary :	9
Packing Group :	III
Flash Point :	None
DOT Reportable Quantity (per package) :	18,347 lbs
DOT RQ Component :	SODIUM BISULFITE

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Name(s) :	SODIUM BISULFITE
UN/ID No :	UN 3082
Hazard Class - Primary :	9
Packing Group :	III
IATA Cargo Packing Instructions :	914
IATA Cargo Aircraft Limit :	450 L (Max net quantity per package)

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. REGULATORY INFORMATION

This section contains additional information that may have relevance to regulatory compliance. The information in this section is for reference only. It is not exhaustive, and should not be relied upon to take the place of an individualized compliance or hazard assessment. Nalco accepts no liability for the use of this information.

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Sodium Bisulfite : Respiratory irritant
Potassium Bisulfite : Irritant
Cobalt Sulfate : Systemic Effect, Irritant, Cancer suspect agent (refer to Section 3)

CERCLA/SUPERFUND, 40 CFR 117, 302 :
This product contains the following Reportable Quantity (RQ) Substance. Also listed is the RQ for the product. If a reportable quantity of product is released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D.C. (1-800-424-8802).

RQ Substance	RQ
Sodium Bisulfite	18,347 lbs

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following indicated EPA hazard categories:

X	Immediate (Acute) Health Hazard
X	Delayed (Chronic) Health Hazard
-	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act :
When use situations necessitate compliance with FDA regulations, this product is acceptable under : 21 CFR 173.310 Boiler Water Additives

Limitations: no more than required to produce intended technical effect.

NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds) :
NSF Registration number for this product is : 141556
This product is acceptable for treating boilers or steam lines where steam produced may contact edible products and/or cooling systems where the treated water may not contact edible products in and around food processing areas, excluding such use in areas where meat and poultry are processed (G9).

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :
This product contains the following substances listed in the regulation. Additional components may be unintentionally present at trace levels.

Substance(s)	Citations
• Sodium Bisulfite	Sec. 311

CLEAN AIR ACT, Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
This product may contain trace levels (<0.1% for carcinogens, <1% all other substances) of the following substance(s) listed under the regulation. Additional components may be unintentionally present at trace levels.

Substance(s)	Citations

• Cobalt Sulfate	Sec. 112

CALIFORNIA PROPOSITION 65 :
This material contains trace amounts of chemicals known to the State of California to cause cancer.

Substance(s)	Concentration	EFFECTS
• Cobalt Sulfate	< .1 %	Causes Cancer

MICHIGAN CRITICAL MATERIALS :
Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

STATE RIGHT TO KNOW LAWS :
The following substances are disclosed for compliance with State Right to Know Laws:

Sodium Bisulfite 7631-90-5

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
D2B - Materials Causing Other Toxic Effects - Toxic Material

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CHINA
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on the Inventory of Existing Chemical Substances China (IECSC).

EUROPE
The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

JAPAN
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

KOREA
All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

NEW ZEALAND
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.

PHILIPPINES
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

16. OTHER INFORMATION

F100777

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Low

* The environmental risk is: Low

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department
Date issued : 07/31/2009
Version Number : 6.2

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 700-42418-1

Job Description: GP Big Island VA Form 2C Permit Renewal

For:
Georgia-Pacific Corporation
9363 Lee - Jackson Hwy
Big Island, VA 24526

Attention: Julie Baty

Dan Strizak

Approved for release.
Daniel M Strizak
Project Manager I
11/18/2009 11:15 AM

Daniel M Strizak
Project Manager I
daniel.strizak@testamericainc.com
11/18/2009

This statement certifies, to the best of the laboratory's knowledge, all test results meet the requirements of NELAC, except where noted in the case narrative. TestAmerica Mobile Certifications and Approvals: Alabama (Micro & DW - #40030); Arkansas (NPW - #09-028-0); Florida (DW, NPW, SCM, BT – E87089); Georgia (DW - #952); Louisiana (NPW, SCM, BT - #01992); Louisiana (DW LA090026); Mississippi (DW-CERT LETTER); North Carolina (NPW - #395); South Carolina (NPW - #75002); Tennessee (DW - #TN02979); Texas (T104704460-09A-TX); USDA (Permit # P330-08-00039); Washington (C1918)

TestAmerica Laboratories, Inc.
TestAmerica Mobile 900 Lakeside Drive, Mobile, AL 36693
Tel (251) 666-6633 Fax (251) 666-6696 www.testamericainc.com

ACCREDITED IN ACCORDANCE WITH nelac

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC Semi VOA
No analytical or quality issues were noted.

Metals
Method(s) 200.8: The method blank for batch 75241 contained magnesium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 245.1: The method blank for batch 75007 contained mercury above the method detection limit (MDL). This concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

METHOD SUMMARY

Client: Georgia-Pacific Corporation

Job Number: 700-42418-1

Description	Lab Location	Method	Preparation Method
Matrix Water			
Metals (ICP/MS)	TAL MOB	EPA 200.8	
Preparation, Total Metals	TAL MOB		EPA 200.8
Mercury (CVAA)	TAL MOB	EPA 245.1	
Preparation, Mercury	TAL MOB		EPA 245.1
Solids, Total Suspended (TSS)	TAL MOB	MCAWW 160.2	
HEM and SGT-HEM	TAL MOB	1664A 1664A	
HEM and SGT-HEM (Aqueous)	TAL MOB		1664A 1664A
Anions, Ion Chromatography	TAL MOB	MCAWW 300.0	
Nitrogen, Ammonia	TAL PEN	MCAWW 350.1	
Nitrogen, Total Kjeldahl	TAL PEN	MCAWW 351.2	
Nitrogen, Total Kjeldahl	TAL PEN		MCAWW 351.2
Nitrogen, Nitrate-Nitrite	TAL PEN	MCAWW 353.2	
Phosphorus, Total	TAL PEN	EPA 365.4	
Phosphorus, Total	TAL PEN		MCAWW 365.2/365.3/365
TOC	TAL MOB	MCAWW 415.1	
COD	TAL MOB	SM SM 5220C	
COD	TAL MOB		SM SM 5220

Lab References:

TAL MOB = TestAmerica Mobile

TAL PEN = TestAmerica Pensacola

Method References:

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater".

METHOD / ANALYST SUMMARY

Client: Georgia-Pacific Corporation

Job Number: 700-42418-1

Method	Analyst	Analyst ID
EPA 200.8	Thompson, Cheri D	CDT
EPA 245.1	Mathews, Robert	RDM
MCAWW 160.2	Phanthapannha, Charles F	CFP
1664A 1664A	Giang, Hai P	HPG
MCAWW 300.0	Ly, Xung C	XCL
MCAWW 350.1	Gimlin, Wendy	WG
MCAWW 351.2	Gimlin, Wendy	WG
MCAWW 353.2	Gimlin, Wendy	WG
EPA 365.4	Gimlin, Wendy	WG
MCAWW 415.1	Bradley, Katie	KB
SM SM 5220C	Giang, Hai P	HPG

SAMPLE SUMMARY

Client: Georgia-Pacific Corporation

Job Number: 700-42418-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
700-42418-1	Outfall 001 Grab	Water	10/27/2009 1000	10/28/2009 0830
700-42418-2	Outfall 001 Composite	Water	10/27/2009 1100	10/28/2009 0830

SAMPLE RESULTS

Client: Georgia-Pacific Corporation

Job Number: 700-42418-1

Client Sample ID: **Outfall 001 Composite**

Lab Sample ID: 700-42418-2
Client Matrix: Water

Date Sampled: 10/27/2009 1100
Date Received: 10/28/2009 0830

200.8 Metals (ICP/MS)

Method:	200.8	Analysis Batch: 700-75400		Instrument ID:	ICPMS
Preparation:	200.8	Prep Batch: 700-75241		Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	50 mL
Date Analyzed:	11/09/2009 1205			Final Weight/Volume:	50 mL
Date Prepared:	11/05/2009 0915				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Cadmium	0.32	J	0.060	2.5
Antimony	0.22	J	0.050	1.2
Molybdenum	1.2	J	0.10	2.5
Iron	120	J	22	120
Nickel	1.2	J	0.50	2.5
Silver	<0.50		0.050	0.50
Copper	<2.5		0.30	2.5
Aluminum	58		12	25
Lead	0.17	J	0.10	1.2
Tin	<2.5		0.60	2.5
Selenium	<1.2		0.30	1.2
Chromium	<2.5		2.5	2.5
Cobalt	0.67	J	0.055	2.5
Titanium	1.4	J	0.75	2.5

Method:	200.8	Analysis Batch: 700-75439		Instrument ID:	ICPMS
Preparation:	200.8	Prep Batch: 700-75241		Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	50 mL
Date Analyzed:	11/10/2009 2130			Final Weight/Volume:	50 mL
Date Prepared:	11/05/2009 0915				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Barium	62		0.70	2.5
Magnesium	8100	B	5.0	120

Method:	200.8	Analysis Batch: 700-75459		Instrument ID:	ICPMS
Preparation:	200.8	Prep Batch: 700-75241		Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	50 mL
Date Analyzed:	11/12/2009 1042			Final Weight/Volume:	50 mL
Date Prepared:	11/05/2009 0915				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Boron	21		4.2	5.0
Zinc	<20		4.5	20

Method:	200.8	Analysis Batch: 700-75610		Instrument ID:	ICPMS
Preparation:	200.8	Prep Batch: 700-75241		Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	50 mL
Date Analyzed:	11/13/2009 1809			Final Weight/Volume:	50 mL
Date Prepared:	11/05/2009 0915				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	19		1.3	12

245.1 Mercury (CVAA)

Client: Georgia-Pacific Corporation

Job Number: 700-42418-1

Client Sample ID: **Outfall 001 Composite**

Lab Sample ID: 700-42418-2
Client Matrix: Water

Date Sampled: 10/27/2009 1100
Date Received: 10/28/2009 0830

245.1 Mercury (CVAA)

Method:	245.1	Analysis Batch: 700-75114		Instrument ID:	LEEMAN HYDRA
Preparation:	245.1	Prep Batch: 700-75007		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	40 mL
Date Analyzed:	10/30/2009 1931			Final Weight/Volume:	40 mL
Date Prepared:	10/30/2009 1400				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	<0.00020		0.000071	0.00020

General Chemistry

Client Sample ID: **Outfall 001 Grab**

Lab Sample ID: 700-42418-1 Date Sampled: 10/27/2009 1000
Client Matrix: Water Date Received: 10/28/2009 0830

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
HEM (Oil & Grease)	<5.3		mg/L	3.5	5.3	1.0	1664A
Analysis Batch: 700-75213	Date Analyzed: 11/03/2009 1000						
Prep Batch: 700-75211	Date Prepared: 11/03/2009 1000						
Silica Gel Treated n-Hexane Extractable Material	<5.3		mg/L	3.5	5.3	1.0	1664A
Analysis Batch: 700-75319	Date Analyzed: 11/05/2009 1600						
Prep Batch: 700-75318	Date Prepared: 11/05/2009 1600						

General Chemistry

Client Sample ID: **Outfall 001 Composite**

Lab Sample ID: 700-42418-2
Client Matrix: Water

Date Sampled: 10/27/2009 1100
Date Received: 10/28/2009 0830

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Fluoride	0.075	J	mg/L	0.058	0.10	5.0	300.0
Analysis Batch: 700-75072	Date Analyzed: 10/31/2009 0122						
Chloride	18		mg/L	0.078	0.10	5.0	300.0
Analysis Batch: 700-75072	Date Analyzed: 10/31/2009 0122						
Sulfate	86		mg/L	0.10	0.20	10	300.0
Analysis Batch: 700-75072	Date Analyzed: 10/31/2009 0044						
Bromide	2.1		mg/L	0.052	0.10	5.0	300.0
Analysis Batch: 700-75072	Date Analyzed: 10/31/2009 0122						
Ammonia	<0.050		mg/L	0.014	0.050	1.0	350.1
Analysis Batch: 400-98818	Date Analyzed: 11/09/2009 1236						
Nitrogen, Kjeldahl	<0.50		mg/L	0.16	0.50	1.0	351.2
Analysis Batch: 400-98938	Date Analyzed: 11/10/2009 1508						
Prep Batch: 400-98579	Date Prepared: 11/04/2009 1250						
Nitrate as N	<0.050		mg/L	0.030	0.050	1.0	353.2
Analysis Batch: 400-99048	Date Analyzed: 11/10/2009 1230						
Nitrate Nitrite as N	<0.050		mg/L	0.030	0.050	1.0	353.2
Analysis Batch: 400-99048	Date Analyzed: 11/10/2009 1230						
Nitrite as N	<0.10		mg/L	0.012	0.10	1.0	353.2
Analysis Batch: 400-99048	Date Analyzed: 11/10/2009 1230						
Phosphorus, Total	0.11	B	mg/L	0.057	0.10	1.0	365.4
Analysis Batch: 400-98683	Date Analyzed: 11/05/2009 1527						
Prep Batch: 400-98580	Date Prepared: 11/04/2009 1250						
Total Organic Carbon	4.1	B	mg/L	0.17	1.0	1.0	415.1
Analysis Batch: 700-75206	Date Analyzed: 10/30/2009 1650						
Chemical Oxygen Demand	16	J	mg/L	12	20	1.0	SM 5220C
Analysis Batch: 700-75608	Date Analyzed: 11/16/2009 0858						
Prep Batch: 700-75607	Date Prepared: 11/13/2009 1615						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Total Suspended Solids	<2.0		mg/L	2.0	2.0	1.0	160.2
Analysis Batch: 700-75027	Date Analyzed: 10/30/2009 1030						

DATA REPORTING QUALIFIERS

Client: Georgia-Pacific Corporation Job Number: 700-42418-1

Lab Section	Qualifier	Description
Metals		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry		
	B	Compound was found in the blank and sample.
	F	MS or MSD exceeds the control limits
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Serial Number

TestAmerica — Mobile

THE LEADER IN ENVIRONMENTAL TESTING

TAL-8240 (1007)

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

☒ TA Mobile
900 Lakeside Drive
Mobile, AL 36693
www.testamericainc.com
Phone: (251) 666-6633
Fax: (251) 666-6696

○ Alternate Laboratory Name/Location:
Phone:
Fax:

Field	Value
PROJECT REFERENCE	Form 2C-NPDES
PROJECT NO.	
PROJECT LOCATION (STATE)	
(LAB) PROJECT MANAGER	
P. O. NUMBER	99254
CONTRACT NO.	
CLIENT (SITE) PM	
CLIENT PHONE	434-299-7368
CLIENT FAX	434-299-5125
CLIENT NAME	GP Big Island LLC
CLIENT EMAIL	JBBATY @ Gapac.com
CLIENT ADDRESS	9363 Lee Jackson Hwy Big Island VA 24526
COMPANY CONTRACTING THIS WORK (if applicable)	
SAMPLER'S SIGNATURE	Florence Slonger
PAGE	
OF	
STANDARD REPORT DELIVERY	☒
DATE DUE	
EXPEDITED REPORT DELIVERY (SURCHARGE)	○
DATE DUE	
NUMBER OF COOLERS SUBMITTED PER SHIPMENT	1

REQUIRED ANALYSES (preservative / number of containers submitted):

Analysis	Preservative	No. of containers
Oil+Grease pH<2	Hydrochloric Acid	1
Metals *see Note pH<2	Nitric	1
Ammonia, TKN, T Phos, Total Organic Nitrogen pH<2	H2SO4	1
TOC pH<2	HCl	2
COD pH<2	H2SO4	1
TSS Sulfate, Bromide	NO	1
Nitrate-Nitrite	NO	1

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT...)	Oil+Grease	Metals	Ammonia, TKN, T Phos, Total Organic Nitrogen	TOC	COD	TSS Sulfate, Bromide	Nitrate-Nitrite	REMARKS
10-27-09	1000am	Outfall 001-Grab	G	X				X							
~~10-26-09~~ ~~10-27-09~~ 10-26-09 10-27-09	~~11:30am~~ ~~11:55am~~ 11:04am 11:00am	Outfall 001-Composite	C	X					X	X	X	X	X	X	Metals: Do NOT NEED: Arsenic, Beryllium, Thallium, Cyanide

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Julie Batt	10/27/09	1130			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES / NO	CUSTODY SEAL NO.	LOG NO.	LABORATORY REMARKS:
[signature]	10/28/09	8:00	YES		700-42418	3.6°C 4R14

Original - Return to Laboratory with Sample(s)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 700-42417-1

Job Description: GP Big Island VA Form 2C Permit Renewal

For:
Georgia-Pacific Corporation
9363 Lee - Jackson Hwy
Big Island, VA 24526

Attention: Julie Baty

Dan Strizak

Approved for release.
Daniel M Strizak
Project Manager I
11/18/2009 11:09 AM

Daniel M Strizak
Project Manager I
daniel.strizak@testamericainc.com
11/18/2009

This statement certifies, to the best of the laboratory's knowledge, all test results meet the requirements of NELAC, except where noted in the case narrative. TestAmerica Mobile Certifications and Approvals: Alabama (Micro & DW - #40030); Arkansas (NPW - #09-028-0); Florida (DW, NPW, SCM, BT – E87089); Georgia (DW - #952); Louisiana (NPW, SCM, BT - #01992); Louisiana (DW LA090026); Mississippi (DW-CERT LETTER); North Carolina (NPW - #395); South Carolina (NPW - #75002); Tennessee (DW - #TN02979); Texas (T104704460-09A-TX); USDA (Permit # P330-08-00039); Washington (C1918)

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC Semi VOA
No analytical or quality issues were noted.

Metals
Method(s) 200.8: The method blank for batch 75241 contained magnesium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 245.1: The method blank for batch 75007 contained mercury above the method detection limit (MDL). This concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

METHOD SUMMARY

Client: Georgia-Pacific Corporation

Job Number: 700-42417-1

Description	Lab Location	Method	Preparation Method
Matrix Water			
Metals (ICP/MS)	TAL MOB	EPA 200.8	
Preparation, Total Metals	TAL MOB		EPA 200.8
Mercury (CVAA)	TAL MOB	EPA 245.1	
Preparation, Mercury	TAL MOB		EPA 245.1
Solids, Total Suspended (TSS)	TAL MOB	MCAWW 160.2	
HEM and SGT-HEM	TAL MOB	1664A 1664A	
HEM and SGT-HEM (Aqueous)	TAL MOB		1664A 1664A
Anions, Ion Chromatography	TAL MOB	MCAWW 300.0	
Nitrogen, Ammonia	TAL PEN	MCAWW 350.1	
Nitrogen, Total Kjeldahl	TAL PEN	MCAWW 351.2	
Nitrogen, Total Kjeldahl	TAL PEN		MCAWW 351.2
Nitrogen, Nitrate-Nitrite	TAL PEN	MCAWW 353.2	
Phosphorus, Total	TAL PEN	EPA 365.4	
Phosphorus, Total	TAL PEN		MCAWW 365.2/365.3/365
TOC	TAL MOB	MCAWW 415.1	
COD	TAL MOB	SM SM 5220C	
COD	TAL MOB		SM SM 5220

Lab References:

TAL MOB = TestAmerica Mobile

TAL PEN = TestAmerica Pensacola

Method References:

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

METHOD / ANALYST SUMMARY

Client: Georgia-Pacific Corporation

Job Number: 700-42417-1

Method	Analyst	Analyst ID
EPA 200.8	Thompson, Cheri D	CDT
EPA 245.1	Mathews, Robert	RDM
MCAWW 160.2	Phanthapannha, Charles F	CFP
1664A 1664A	Giang, Hai P	HPG
MCAWW 300.0	Ly, Xung C	XCL
MCAWW 350.1	Gimlin, Wendy	WG
MCAWW 351.2	Gimlin, Wendy	WG
MCAWW 353.2	Gimlin, Wendy	WG
EPA 365.4	Gimlin, Wendy	WG
MCAWW 415.1	Bradley, Katie	KB
SM SM 5220C	Giang, Hai P	HPG

SAMPLE SUMMARY

Client: Georgia-Pacific Corporation

Job Number: 700-42417-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
700-42417-1	Outfall 002 Grab	Water	10/27/2009 1005	10/28/2009 0830
700-42417-2	Outfall 002 Composite	Water	10/27/2009 0950	10/28/2009 0830

SAMPLE RESULTS

Client: Georgia-Pacific Corporation

Job Number: 700-42417-1

Client Sample ID: **Outfall 002 Composite**

Lab Sample ID: 700-42417-2
Client Matrix: Water

Date Sampled: 10/27/2009 0950
Date Received: 10/28/2009 0830

200.8 Metals (ICP/MS)

Method:	200.8	Analysis Batch: 700-75400		Instrument ID:	ICPMS
Preparation:	200.8	Prep Batch: 700-75241		Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	50 mL
Date Analyzed:	11/09/2009 1122			Final Weight/Volume:	50 mL
Date Prepared:	11/05/2009 0915				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Cadmium	0.32	J	0.060	2.5
Antimony	0.082	J	0.050	1.2
Molybdenum	1.0	J	0.10	2.5
Iron	88	J	22	120
Nickel	<2.5		0.50	2.5
Silver	<0.50		0.050	0.50
Copper	<2.5		0.30	2.5
Aluminum	53		12	25
Lead	0.14	J	0.10	1.2
Zinc	<5.0		4.5	5.0
Tin	<2.5		0.60	2.5
Selenium	<1.2		0.30	1.2
Chromium	<2.5		2.5	2.5
Cobalt	0.53	J	0.055	2.5
Titanium	0.90	J	0.75	2.5

Method:	200.8	Analysis Batch: 700-75439		Instrument ID:	ICPMS
Preparation:	200.8	Prep Batch: 700-75241		Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	50 mL
Date Analyzed:	11/10/2009 2121			Final Weight/Volume:	50 mL
Date Prepared:	11/05/2009 0915				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Barium	63		0.70	2.5
Magnesium	7900	B	5.0	120

Method:	200.8	Analysis Batch: 700-75610		Instrument ID:	ICPMS
Preparation:	200.8	Prep Batch: 700-75241		Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	50 mL
Date Analyzed:	11/13/2009 1800			Final Weight/Volume:	50 mL
Date Prepared:	11/05/2009 0915				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	15		1.3	12

Method:	200.8	Analysis Batch: 700-75661		Instrument ID:	ICPMS
Preparation:	200.8	Prep Batch: 700-75241		Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	50 mL
Date Analyzed:	11/16/2009 1923			Final Weight/Volume:	50 mL
Date Prepared:	11/05/2009 0915				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Boron	24		4.2	5.0

245.1 Mercury (CVAA)

Client: Georgia-Pacific Corporation

Job Number: 700-42417-1

Client Sample ID: **Outfall 002 Composite**

Lab Sample ID: 700-42417-2
Client Matrix: Water

Date Sampled: 10/27/2009 0950
Date Received: 10/28/2009 0830

245.1 Mercury (CVAA)

Method:	245.1	Analysis Batch: 700-75114		Instrument ID:	LEEMAN HYDRA
Preparation:	245.1	Prep Batch: 700-75007		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	40 mL
Date Analyzed:	10/30/2009 1925			Final Weight/Volume:	40 mL
Date Prepared:	10/30/2009 1400				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	<0.00020		0.000071	0.00020

General Chemistry

Client Sample ID: **Outfall 002 Grab**

Lab Sample ID: 700-42417-1 Date Sampled: 10/27/2009 1005
Client Matrix: Water Date Received: 10/28/2009 0830

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
HEM (Oil & Grease)	<5.3		mg/L	3.5	5.3	1.0	1664A
Analysis Batch: 700-75213	Date Analyzed: 11/03/2009 1000						
Prep Batch: 700-75211	Date Prepared: 11/03/2009 1000						
Silica Gel Treated n-Hexane Extractable Material	<5.3		mg/L	3.5	5.3	1.0	1664A
Analysis Batch: 700-75319	Date Analyzed: 11/05/2009 1600						
Prep Batch: 700-75318	Date Prepared: 11/05/2009 1600						

General Chemistry

Client Sample ID: **Outfall 002 Composite**

Lab Sample ID: 700-42417-2 Date Sampled: 10/27/2009 0950
Client Matrix: Water Date Received: 10/28/2009 0830

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Fluoride	0.068	J	mg/L	0.058	0.10	5.0	300.0
Analysis Batch: 700-75072	Date Analyzed: 10/31/2009 0006						
Chloride	16		mg/L	0.078	0.10	5.0	300.0
Analysis Batch: 700-75072	Date Analyzed: 10/31/2009 0006						
Sulfate	72		mg/L	0.052	0.10	5.0	300.0
Analysis Batch: 700-75072	Date Analyzed: 10/31/2009 0006						
Bromide	2.4		mg/L	0.052	0.10	5.0	300.0
Analysis Batch: 700-75072	Date Analyzed: 10/31/2009 0006						
Ammonia	<0.050		mg/L	0.014	0.050	1.0	350.1
Analysis Batch: 400-98820	Date Analyzed: 11/06/2009 1300						
Nitrogen, Kjeldahl	<0.50		mg/L	0.16	0.50	1.0	351.2
Analysis Batch: 400-98938	Date Analyzed: 11/10/2009 1508						
Prep Batch: 400-98579	Date Prepared: 11/04/2009 1250						
Nitrate as N	<0.050		mg/L	0.030	0.050	1.0	353.2
Analysis Batch: 400-98854	Date Analyzed: 11/10/2009 0822						
Nitrate Nitrite as N	<0.050		mg/L	0.030	0.050	1.0	353.2
Analysis Batch: 400-98854	Date Analyzed: 11/10/2009 0822						
Nitrite as N	<0.10		mg/L	0.012	0.10	1.0	353.2
Analysis Batch: 400-98854	Date Analyzed: 11/10/2009 0822						
Phosphorus, Total	0.15	B	mg/L	0.057	0.10	1.0	365.4
Analysis Batch: 400-98683	Date Analyzed: 11/05/2009 1527						
Prep Batch: 400-98580	Date Prepared: 11/04/2009 1250						
Total Organic Carbon	3.8	B	mg/L	0.17	1.0	1.0	415.1
Analysis Batch: 700-74983	Date Analyzed: 10/30/2009 1436						
Chemical Oxygen Demand	16	J	mg/L	12	20	1.0	SM 5220C
Analysis Batch: 700-75608	Date Analyzed: 11/16/2009 0858						
Prep Batch: 700-75607	Date Prepared: 11/13/2009 1615						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Total Suspended Solids	<2.0		mg/L	2.0	2.0	1.0	160.2
Analysis Batch: 700-75027	Date Analyzed: 10/30/2009 1030						

DATA REPORTING QUALIFIERS

Client: Georgia-Pacific Corporation Job Number: 700-42417-1

Lab Section	Qualifier	Description
Metals		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry		
	B	Compound was found in the blank and sample.
	F	MS or MSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Serial Number

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING

Mobile

TAL-8240 (1007)

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TA Mobile
900 Lakeside Drive
Mobile, AL 36693
www.testamericainc.com
Phone: (251) 666-6633
Fax: (251) 666-6696

Alternate Laboratory Name/Location:
Phone:
Fax:

PROJECT REFERENCE	Form 2C-NPDES
PROJECT NO.	
PROJECT LOCATION (STATE)	
(LAB) PROJECT MANAGER	
P. O. NUMBER	99254
CONTRACT NO.	
CLIENT (SITE) PM	
CLIENT PHONE	434-299-7368
CLIENT FAX	434-299-5725
CLIENT NAME	GP Big Island LLC
CLIENT EMAIL	JBBATY@Gapac.com
CLIENT ADDRESS	9363 Lee Jackson Hwy Big Island VA 24526
COMPANY CONTRACTING THIS WORK (if applicable)	
SAMPLER'S SIGNATURE	Florence S. Younger
PAGE	OF
STANDARD REPORT DELIVERY	X
DATE DUE	
EXPEDITED REPORT DELIVERY (SURCHARGE)	
DATE DUE	
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:	1

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT...)

REQUIRED ANALYSES / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	Oil + Grease (HCl, pH<2) (1)	Nitric Metals *see note (1)	Ammonia, TKN, T Phos, Total Organic Nitrogen (H2SO4, pH<2) (1)	TOC (HCl, pH<2) (2)	COD (H2SO4, pH<2) (1)	TSS, Sulfate, Bromide (NO) (1)	Nitrate-Nitrite (NO) (1)	REMARKS
10-27-09	10:05am	Outfall 002-Grab	X							
10-26-09 / 10-27-09	0943am / 0950am	Outfall 002-Composite		X	X	X	X	X	X	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Julie Baty	10/27/09	1130			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES / NO	CUSTODY SEAL NO.	LOG NO.	LABORATORY REMARKS:
[signature]	10/28/09	8:30			400-42417	3.9°C LHA 014

Original - Return to Laboratory with Sample(s)

Page 29 of 29

11/18/2009

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 700-42420-1

Job Description: GP Big Island VA Form 2C Permit Renewal

For:
Georgia-Pacific Corporation
9363 Lee - Jackson Hwy
Big Island, VA 24526

Attention: Julie Baty

Dan Strizak

Approved for release.
Daniel M Strizak
Project Manager I
11/18/2009 11:22 AM

Daniel M Strizak
Project Manager I
daniel.strizak@testamericainc.com
11/18/2009

This statement certifies, to the best of the laboratory's knowledge, all test results meet the requirements of NELAC, except where noted in the case narrative. TestAmerica Mobile Certifications and Approvals: Alabama (Micro & DW - #40030); Arkansas (NPW - #09-028-0); Florida (DW, NPW, SCM, BT – E87089); Georgia (DW - #952); Louisiana (NPW, SCM, BT - #01992); Louisiana (DW LA090026); Mississippi (DW-CERT LETTER); North Carolina (NPW - #395); South Carolina (NPW - #75002); Tennessee (DW - #TN02979); Texas (T104704460-09A-TX); USDA (Permit # P330-08-00039); Washington (C1918)

Comments
No additional comments.

Receipt
The following sample(s) was received with headspace in the sample vial: Several vials have headspace.

All other samples were received in good condition within temperature requirements.

GC/MS VOA
No analytical or quality issues were noted.

GC/MS Semi VOA
No analytical or quality issues were noted.

GC Semi VOA
Method(s) 608: Surrogate recovery for the following samples were outside control limits: Outfall 003 Composite (700-42420-2). Evidence of matrix interference is present; therefore, re-extraction was not performed.

No other analytical or quality issues were noted.

Metals
Method(s) 200.8: The method blank for batch 75241 contained magnesium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 245.1: The method blank for batch 75007 contained mercury above the method detection limit (MDL). This concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

METHOD SUMMARY

Client: Georgia-Pacific Corporation

Job Number: 700-42420-1

Description	Lab Location	Method	Preparation Method
Matrix Water			
Volatile Organic Compounds (GC/MS)	TAL MOB	40CFR136A 624	
Semivolatile Organic Compounds (GC/MS)	TAL MOB	40CFR136A 625	
Liquid-Liquid Extraction (Continuous)	TAL MOB		SW846 3520C
Organochlorine Pesticides/PCBs in Water	TAL MOB	40CFR136A 608	
Liquid-Liquid Extraction (Continuous)	TAL MOB		SW846 3520C
Metals (ICP/MS)	TAL MOB	EPA 200.8	
Preparation, Total Metals	TAL MOB		EPA 200.8
Mercury (CVAA)	TAL MOB	EPA 245.1	
Preparation, Mercury	TAL MOB		EPA 245.1
HEM and SGT-HEM	TAL MOB	1664A 1664A	
HEM and SGT-HEM (Aqueous)	TAL MOB		1664A 1664A
Anions, Ion Chromatography	TAL MOB	MCAWW 300.0	
Cyanide, Total	TAL MOB	MCAWW 335.4	
Distillation, Cyanide	TAL MOB		Distill/CN
Nitrogen, Ammonia	TAL PEN	MCAWW 350.1	
Nitrogen, Total Kjeldahl	TAL PEN	MCAWW 351.2	
Nitrogen, Total Kjeldahl	TAL PEN		MCAWW 351.2
Phosphorus, Total	TAL PEN	EPA 365.4	
Phosphorus, Total	TAL PEN		MCAWW 365.2/365.3/365
TOC	TAL MOB	MCAWW 415.1	
Phenolics, Total Recoverable	TAL MOB	MCAWW 420.1	
Distillation, Phenolics	TAL MOB		Distill/Phenol
Methylene Blue Active Substances (MBAS)	TAL MOB	EPA 425.1	
COD	TAL MOB	SM SM 5220C	
COD	TAL MOB		SM SM 5220

Lab References:

TAL MOB = TestAmerica Mobile

TAL PEN = TestAmerica Pensacola

METHOD SUMMARY

Client: Georgia-Pacific Corporation | Job Number: 700-42420-1

Description	Lab Location	Method	Preparation Method

Method References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Georgia-Pacific Corporation

Job Number: 700-42420-1

Method	Analyst	Analyst ID
40CFR136A 624	Alston, Stafania D	SDA
40CFR136A 625	Nguyen, Tiffany K	TKN
40CFR136A 608	Bendolph, Jackie	JB
EPA 200.8	Thompson, Cheri D	CDT
EPA 245.1	Mathews, Robert	RDM
1664A 1664A	Giang, Hai P	HPG
MCAWW 300.0	Ly, Xung C	XCL
MCAWW 335.4	Hollins, Shelinda D	SDH
MCAWW 350.1	Gimlin, Wendy	WG
MCAWW 351.2	Gimlin, Wendy	WG
EPA 365.4	Gimlin, Wendy	WG
MCAWW 415.1	Bradley, Katie	KB
MCAWW 420.1	Hobson, Anthony	AH
EPA 425.1	Hobson, Anthony	AH
SM SM 5220C	Giang, Hai P	HPG

SAMPLE SUMMARY

Client: Georgia-Pacific Corporation

Job Number: 700-42420-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
700-42420-1	Outfall 003 Grab	Water	10/27/2009 0850	10/28/2009 0830
700-42420-2	Outfall 003 Composite	Water	10/27/2009 0850	10/28/2009 0830
700-42420-7	VOC Grab 1-4 Composite	Water	10/27/2009 0000	10/28/2009 0830

SAMPLE RESULTS

Client: Georgia-Pacific Corporation

Job Number: 700-42420-1

Client Sample ID: **VOC Grab 1-4 Composite**

Lab Sample ID: 700-42420-7
Client Matrix: Water

Date Sampled: 10/27/2009 0000
Date Received: 10/28/2009 0830

624 Volatile Organic Compounds (GC/MS)

Method:	624	Analysis Batch: 700-75289	Instrument ID: VMI
Preparation:	N/A		Lab File ID: I102910.D
Dilution:	1.0		Initial Weight/Volume: 5 mL
Date Analyzed:	10/29/2009 1411		Final Weight/Volume: 5 mL
Date Prepared:			

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acrolein	<100	*	2.8	100
Acrylonitrile	<100		5.4	100
Benzene	<5.0		0.49	5.0
Bromoform	<5.0		0.90	5.0
Carbon tetrachloride	<5.0		0.76	5.0
Chlorobenzene	<5.0		0.93	5.0
Chlorodibromomethane	<5.0		0.75	5.0
Chloroethane	<10		0.53	10
2-Chloroethyl vinyl ether	<50		3.3	50
Chloroform	<5.0		0.42	5.0
Dichlorobromomethane	<5.0		0.67	5.0
1,1-Dichloroethane	<5.0		0.50	5.0
1,2-Dichloroethane	<5.0		0.63	5.0
1,1-Dichloroethene	<5.0		0.57	5.0
1,2-Dichloropropane	<5.0		0.49	5.0
cis-1,3-Dichloropropene	<5.0		0.65	5.0
trans-1,3-Dichloropropene	<5.0		0.74	5.0
Ethylbenzene	<5.0		0.67	5.0
Bromomethane	<10		0.50	10
Chloromethane	<10		0.43	10
Methylene Chloride	<5.0		0.38	5.0
1,1,2,2-Tetrachloroethane	<5.0		0.99	5.0
Tetrachloroethene	<5.0		0.57	5.0
Toluene	<5.0		0.51	5.0
trans-1,2-Dichloroethene	<5.0		0.44	5.0
1,1,1-Trichloroethane	<5.0		0.65	5.0
1,1,2-Trichloroethane	<5.0		0.86	5.0
Trichloroethene	<5.0		0.49	5.0
Vinyl chloride	<10		0.54	10
Dichlorodifluoromethane	<5.0	*	0.54	5.0
Trichlorofluoromethane	<5.0		0.48	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	84		77 - 116
Dibromofluoromethane	99		66 - 125
4-Bromofluorobenzene	80		70 - 118

Client: Georgia-Pacific Corporation

Job Number: 700-42420-1

Client Sample ID: **Outfall 003 Composite**

Lab Sample ID: 700-42420-2
Client Matrix: Water

Date Sampled: 10/27/2009 0850
Date Received: 10/28/2009 0830

625 Semivolatile Organic Compounds (GC/MS)

Method:	625	Analysis Batch: 700-75050	Instrument ID:	SMC
Preparation:	3520C	Prep Batch: 700-75012	Lab File ID:	C110330.D
Dilution:	2.0		Initial Weight/Volume:	1030 mL
Date Analyzed:	11/03/2009 2248		Final Weight/Volume:	1.0 mL
Date Prepared:	10/30/2009 1830		Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2,4,6-Trichlorophenol	<3.9		1.5	3.9
2-Chloronaphthalene	<3.9		1.6	3.9
2-Chlorophenol	<3.9		1.6	3.9
2,4-Dichlorophenol	<3.9		1.4	3.9
2,4-Dimethylphenol	<3.9		1.6	3.9
2,4-Dinitrotoluene	<3.9		1.6	3.9
2,6-Dinitrotoluene	<3.9		1.6	3.9
3,3'-Dichlorobenzidine	<7.8		3.9	7.8
4,6-Dinitro-2-methylphenol	<19		1.6	19
2,4-Dinitrophenol	<19		1.3	19
1,2-Diphenylhydrazine	<3.9		3.9	3.9
2-Nitrophenol	<3.9	*	1.2	3.9
4-Chloro-3-methylphenol	<3.9	*	1.9	3.9
4-Chlorophenyl phenyl ether	<3.9		1.6	3.9
4-Bromophenyl phenyl ether	<3.9		1.7	3.9
4-Nitrophenol	<19	*	1.1	19
Acenaphthene	<3.9		1.8	3.9
Acenaphthylene	<3.9	*	2.5	3.9
Anthracene	<3.9		1.7	3.9
Benzidine	<31		6.6	31
Benzo[a]anthracene	<3.9		2.1	3.9
Benzo[a]pyrene	<3.9		2.5	3.9
Benzo[b]fluoranthene	<3.9		2.1	3.9
Benzo[g,h,i]perylene	<3.9		1.9	3.9
Benzo[k]fluoranthene	<3.9		2.3	3.9
Bis(2-chloroethoxy)methane	<3.9		3.7	3.9
Bis(2-chloroethyl)ether	<3.9		1.5	3.9
Bis(2-ethylhexyl) phthalate	<3.9		4.3	3.9
2,2'-oxybis(2-chloropropane)	<3.9		1.0	3.9
Butyl benzyl phthalate	<3.9		2.1	3.9
Chrysene	<3.9		2.1	3.9
Di-n-butyl phthalate	<3.9		3.9	3.9
Di-n-octyl phthalate	<3.9		2.7	3.9
Dibenz(a,h)anthracene	<3.9		1.8	3.9
Diethyl phthalate	<3.9		2.1	3.9
Dimethyl phthalate	<3.9		1.9	3.9
Fluorene	<3.9		1.7	3.9
Fluoranthene	<3.9		1.9	3.9
Hexachlorobenzene	<3.9		1.6	3.9
Hexachlorobutadiene	<3.9		1.8	3.9
Hexachlorocyclopentadiene	<3.9		1.2	3.9
Hexachloroethane	<3.9		1.9	3.9
Isophorone	<3.9		1.9	3.9
Naphthalene	<3.9		1.5	3.9
Nitrobenzene	<3.9		1.3	3.9
Pentachlorophenol	<19	*	1.4	19

Client: Georgia-Pacific Corporation

Job Number: 700-42420-1

Client Sample ID: **Outfall 003 Composite**

Lab Sample ID: 700-42420-2
Client Matrix: Water

Date Sampled: 10/27/2009 0850
Date Received: 10/28/2009 0830

625 Semivolatile Organic Compounds (GC/MS)

Method:	625	Analysis Batch: 700-75050		Instrument ID:	SMC
Preparation:	3520C	Prep Batch: 700-75012		Lab File ID:	C110330.D
Dilution:	2.0			Initial Weight/Volume:	1030 mL
Date Analyzed:	11/03/2009 2248			Final Weight/Volume:	1.0 mL
Date Prepared:	10/30/2009 1830			Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenanthrene	<3.9		1.9	3.9
Phenol	<3.9		1.9	3.9
N-Nitrosodi-n-propylamine	<3.9		1.6	3.9
N-Nitrosodimethylamine	<3.9		1.7	3.9
N-Nitrosodiphenylamine	<3.9		4.7	3.9
Pyrene	<3.9		3.1	3.9
1,2,4-Trichlorobenzene	<3.9		1.6	3.9
Indeno[1,2,3-cd]pyrene	<3.9		2.1	3.9
1,2-Dichlorobenzene	<3.9		1.8	3.9
1,3-Dichlorobenzene	<3.9		1.7	3.9
1,4-Dichlorobenzene	<3.9		1.7	3.9

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol	44		14 - 130
2-Fluorobiphenyl	72		34 - 130
2-Fluorophenol	57		25 - 130
Nitrobenzene-d5	60		39 - 133
Terphenyl-d14	11	X	16 - 158

Client: Georgia-Pacific Corporation

Job Number: 700-42420-1

Client Sample ID: **Outfall 003 Composite**

Lab Sample ID: 700-42420-2
Client Matrix: Water

Date Sampled: 10/27/2009 0850
Date Received: 10/28/2009 0830

608 Organochlorine Pesticides/PCBs in Water

Method:	608	Analysis Batch: 700-75219	Instrument ID: SGZ
Preparation:	3520C	Prep Batch: 700-74953	Initial Weight/Volume: 1030 mL
Dilution:	5.0		Final Weight/Volume: 5.0 mL
Date Analyzed:	11/03/2009 0036		Injection Volume:
Date Prepared:	10/29/2009 1800		Result Type: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
2,4'-DDD	<0.097		0.0074	0.097
2,4'-DDE	<0.097		0.031	0.097
2,4'-DDT	<0.097		0.0082	0.097
4,4'-DDD	<0.097		0.0074	0.097
4,4'-DDE	<0.097		0.0062	0.097
4,4'-DDT	<0.097		0.0082	0.097
Aldrin	<0.049		0.0044	0.049
alpha-BHC	<0.049		0.0054	0.049
alpha-Chlordane	<0.049		0.0025	0.049
beta-BHC	<0.049		0.0035	0.049
Chlordane (technical)	<0.49		0.031	0.49
delta-BHC	<0.049		0.010	0.049
Dieldrin	<0.097		0.0072	0.097
Endosulfan I	<0.049		0.0043	0.049
Endosulfan II	<0.097		0.0046	0.097
Endosulfan sulfate	<0.097		0.0087	0.097
Endrin	<0.097		0.0065	0.097
Endrin aldehyde	<0.097		0.0067	0.097
Endrin ketone	<0.097		0.0077	0.097
gamma-BHC (Lindane)	<0.049		0.0048	0.049
gamma-Chlordane	<0.049		0.0030	0.049
Heptachlor	0.046	J	0.0036	0.049
Heptachlor epoxide	<0.049		0.0038	0.049
Hexachlorobenzene	<0.049		0.011	0.049
Isodrin	<0.049		0.018	0.049
Methoxychlor	<0.49		0.019	0.49
Mirex	<0.49		0.14	0.49
PCB-1016	<0.97		0.11	0.97
PCB-1221	<1.9		0.17	1.9
PCB-1232	<0.97		0.13	0.97
PCB-1242	<0.97		0.17	0.97
PCB-1248	<0.97		0.14	0.97
PCB-1254	<0.97		0.12	0.97
PCB-1260	<0.97		0.12	0.97
Toxaphene	<4.9		0.30	4.9

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	13	X	30 - 150
Tetrachloro-m-xylene	32		30 - 150

Client: Georgia-Pacific Corporation

Job Number: 700-42420-1

Client Sample ID: **Outfall 003 Composite**

Lab Sample ID: 700-42420-2
Client Matrix: Water

Date Sampled: 10/27/2009 0850
Date Received: 10/28/2009 0830

200.8 Metals (ICP/MS)

Method:	200.8	Analysis Batch: 700-75400	Instrument ID: ICPMS
Preparation:	200.8	Prep Batch: 700-75241	Lab File ID: N/A
Dilution:	5.0		Initial Weight/Volume: 50 mL
Date Analyzed:	11/09/2009 1213		Final Weight/Volume: 50 mL
Date Prepared:	11/05/2009 0915		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Cadmium	0.59	J	0.060	2.5
Antimony	0.61	J	0.050	1.2
Beryllium	<2.5		0.070	2.5
Thallium	<0.50		0.40	0.50
Molybdenum	1.9	J	0.10	2.5
Iron	82	J	22	120
Nickel	1.2	J	0.50	2.5
Silver	<0.50		0.050	0.50
Arsenic	1.0	J	0.50	1.2
Copper	<2.5		0.30	2.5
Aluminum	370		12	25
Lead	0.73	J	0.10	1.2
Tin	<2.5		0.60	2.5
Selenium	<1.2		0.30	1.2
Chromium	<2.5		2.5	2.5
Cobalt	0.76	J	0.055	2.5
Titanium	5.1		0.75	2.5

Method:	200.8	Analysis Batch: 700-75439	Instrument ID: ICPMS
Preparation:	200.8	Prep Batch: 700-75241	Lab File ID: N/A
Dilution:	5.0		Initial Weight/Volume: 50 mL
Date Analyzed:	11/10/2009 2138		Final Weight/Volume: 50 mL
Date Prepared:	11/05/2009 0915		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Barium	270		0.70	2.5
Magnesium	10000	B	5.0	120

Method:	200.8	Analysis Batch: 700-75459	Instrument ID: ICPMS
Preparation:	200.8	Prep Batch: 700-75241	Lab File ID: N/A
Dilution:	5.0		Initial Weight/Volume: 50 mL
Date Analyzed:	11/12/2009 1050		Final Weight/Volume: 50 mL
Date Prepared:	11/05/2009 0915		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Boron	1100		4.2	5.0
Zinc	9.4	J	4.5	20

Method:	200.8	Analysis Batch: 700-75610	Instrument ID: ICPMS
Preparation:	200.8	Prep Batch: 700-75241	Lab File ID: N/A
Dilution:	5.0		Initial Weight/Volume: 50 mL
Date Analyzed:	11/13/2009 1818		Final Weight/Volume: 50 mL
Date Prepared:	11/05/2009 0915		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	530		1.3	12

Client: Georgia-Pacific Corporation | Job Number: 700-42420-1

Client Sample ID: **Outfall 003 Composite**

Lab Sample ID: 700-42420-2 | Date Sampled: 10/27/2009 0850

Client Matrix: Water | Date Received: 10/28/2009 0830

245.1 Mercury (CVAA)

Method:	245.1	Analysis Batch: 700-75114		Instrument ID:	LEEMAN HYDRA
Preparation:	245.1	Prep Batch: 700-75007		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	40 mL
Date Analyzed:	10/30/2009 1933			Final Weight/Volume:	40 mL
Date Prepared:	10/30/2009 1400				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	0.00010	J B	0.000071	0.00020

General Chemistry

Client Sample ID: **Outfall 003 Grab**

Lab Sample ID: 700-42420-1
Client Matrix: Water

Date Sampled: 10/27/2009 0850
Date Received: 10/28/2009 0830

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
HEM (Oil & Grease)	<5.3		mg/L	3.5	5.3	1.0	1664A
Analysis Batch: 700-75213	Date Analyzed: 11/03/2009 1000						
Prep Batch: 700-75211	Date Prepared: 11/03/2009 1000						
Silica Gel Treated n-Hexane Extractable Material	<5.3		mg/L	3.5	5.3	1.0	1664A
Analysis Batch: 700-75319	Date Analyzed: 11/05/2009 1600						
Prep Batch: 700-75318	Date Prepared: 11/05/2009 1600						
Cyanide, Total	0.0060	J	mg/L	0.0060	0.010	1.0	335.4
Analysis Batch: 700-75148	Date Analyzed: 11/03/2009 1335						
Prep Batch: 700-75147	Date Prepared: 11/03/2009 0920						
Phenolics, Total Recoverable	0.0090	J	mg/L	0.0030	0.010	1.0	420.1
Analysis Batch: 700-75160	Date Analyzed: 11/03/2009 1200						
Prep Batch: 700-75142	Date Prepared: 11/02/2009 1310						
Phenols, Total	0.0090	J	mg/L	0.0030	0.010	1.0	420.1
Analysis Batch: 700-75160	Date Analyzed: 11/03/2009 1200						
Prep Batch: 700-75142	Date Prepared: 11/02/2009 1310						

General Chemistry

Client Sample ID: **Outfall 003 Composite**

Lab Sample ID: 700-42420-2 Date Sampled: 10/27/2009 0850
Client Matrix: Water Date Received: 10/28/2009 0830

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Fluoride	0.12	J	mg/L	0.12	0.20	10	300.0
Analysis Batch: 700-75072	Date Analyzed: 10/30/2009 2251						
Chloride	76		mg/L	0.16	0.20	10	300.0
Analysis Batch: 700-75072	Date Analyzed: 10/30/2009 2251						
Sulfate	86		mg/L	0.10	0.20	10	300.0
Analysis Batch: 700-75072	Date Analyzed: 10/30/2009 2251						
Bromide	6.5		mg/L	0.10	0.20	10	300.0
Analysis Batch: 700-75072	Date Analyzed: 10/30/2009 2251						
Ammonia	0.24		mg/L	0.014	0.050	1.0	350.1
Analysis Batch: 400-98820	Date Analyzed: 11/06/2009 1300						
Nitrogen, Kjeldahl	1.8		mg/L	0.16	0.50	1.0	351.2
Analysis Batch: 400-98938	Date Analyzed: 11/10/2009 1508						
Prep Batch: 400-98579	Date Prepared: 11/04/2009 1250						
Phosphorus, Total	0.24	B	mg/L	0.057	0.10	1.0	365.4
Analysis Batch: 400-98683	Date Analyzed: 11/05/2009 1527						
Prep Batch: 400-98580	Date Prepared: 11/04/2009 1250						
Total Organic Carbon	43	B	mg/L	0.17	1.0	1.0	415.1
Analysis Batch: 700-74983	Date Analyzed: 10/30/2009 1436						
Methylene Blue Active Substances	0.082	J	mg/l LAS	0.068	0.10	1.0	425.1
Analysis Batch: 700-74914	Date Analyzed: 10/28/2009 1630						
Chemical Oxygen Demand	140		mg/L	12	20	1.0	SM 5220C
Analysis Batch: 700-75608	Date Analyzed: 11/16/2009 0858						
Prep Batch: 700-75607	Date Prepared: 11/13/2009 1615						

DATA REPORTING QUALIFIERS

Client: Georgia-Pacific Corporation

Job Number: 700-42420-1

Lab Section	Qualifier	Description
GC/MS VOA		
	*	LCS or LCSD exceeds the control limits
GC/MS Semi VOA		
	*	LCS or LCSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	*	RPD of the LCS and LCSD exceeds the control limits
	X	Surrogate exceeds the control limits
GC Semi VOA		
	*	LCS or LCSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	*	RPD of the LCS and LCSD exceeds the control limits
	X	Surrogate exceeds the control limits
Metals		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Serial Number

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING

Mobile

TAL-8240 (1007)

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TA Mobile
900 Lakeside Drive
Mobile, AL 36693
www.testamericainc.com
Phone: (251) 666-6633
Fax: (251) 666-6696

Alternate Laboratory Name/Location:
Phone:
Fax:

PROJECT REFERENCE	Form 2C-Sampling
PROJECT NO.	
PROJECT LOCATION (STATE)	
(LAB) PROJECT MANAGER	
P. O. NUMBER	99254
CONTRACT NO.	
CLIENT (SITE) PM	
CLIENT PHONE	434-299-7368
CLIENT FAX	434-299-5125
CLIENT NAME	GP Big Island LLC
CLIENT EMAIL	JBBATY@Gapac.com
CLIENT ADDRESS	9363 Lee Jackson Hwy Big Island VA 24526
COMPANY CONTRACTING THIS WORK (if applicable)	
SAMPLER'S SIGNATURE	[signature]
PAGE	OF
STANDARD REPORT DELIVERY	X
DATE DUE	
EXPEDITED REPORT DELIVERY (SURCHARGE)	
DATE DUE	
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:	1

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT...)

REQUIRED ANALYSES / preservative / NUMBER OF CONTAINERS SUBMITTED:

Analysis	Preservative	No. of containers
Oil & Grease	HCl	1
Total Cyanide	Sodium Hydroxide	1
Total Phenols	H2SO4	2
VOC (4 grabs)	HCl	8
Metals, Total	Nitric	1
COD, Total Organic Nitrogen, Ammonia, TPhos	H2SO4	1
TOC	HCl	2
MLB-Surfactants	NO	1
Pesticides 608, 625	NO	2
Sulfate, Bromide	NO	6

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	C/G	Aqueous	Solid	Air	Nonaqueous	Oil & Grease	Total Cyanide	Total Phenols	VOC	Metals, Total	COD, TON, Ammonia, TPhos	TOC	MLB-Surfactants	Pesticides	Sulfate, Bromide	REMARKS
10-27-09	0850	Outfall 003-Grab	G	X				X	X	X	X							
10-26-09 10-27-09	0845am 0850am	Outfall 003 -Composite	C	X								X	X	X	X	X	X	
		VOC Grab 1 collected 10-26-09 10am																
		VOC Grab 2 collected 10-26-09 1pm																
		VOC Grab 3 collected 10-26-09 7pm																
		VOC Grab 4 collected 10-27-09 1am																

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Julie Baty	10/27/09	1130			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	LOG NO.	LABORATORY REMARKS:
[signature]	28/09	8:00	YES ☒ NO ☐		600-42420	2.1°C LHA0JA

Original - Return to Laboratory with Sample(s)

11/18/2009

13 November 2009

Julie Baty
Georgia-Pacific Big Island LLC
9363 Lee Jackson Hwy
Big Island, VA 24526

Ph.: 434-299-7368
E-mail: JBBATY@Gapac.com

Subject: Certificate of Results

Dear Julie;

Attached to this narrative are the analytical results you requested on the sample submitted for the determination of 2,3,7,8-TCDD. The insert below summarizes the relevant information pertaining to your project. In particular, QC annotations bring to your attention specific analytical observations and assessments made during the sample handling and data interpretation phases. A brief description of the report's components is provided. Results reported relate only to the items tested.

Project Information Summary	When applicable, see QC Annotations for details
Client Project No.	Permit Renewal
AP Project No.	**P1776**
Analytical Protocol	Method 1613
No. Samples Submitted	1
No. Samples Analyzed	1
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	1
No. Outstanding Samples	none
Date Received	27-Oct-2009
Condition Received	Good
Temperature upon Receipt (C)	2
Extraction within Holding Time	yes
Analysis within Holding Time	yes
Data meet QA/QC Requirements	yes
Exceptions	none
Analytical Difficulties	none

QC Annotations:

1. None.

Analytical Perspectives remains committed to serving you in the most effective manner. Should you have any questions or need additional information and technical support, please do not hesitate to contact us. Thank you for choosing Analytical Perspectives as part of your analytical support team.

Sincerely,

Heather Steele

Heather Steele, Ph.D.
Project Manager

Georgia Pacific-Mill
Permit Renewal P1776
TCDD/F by Method 1613

Form 1: Sample and Laboratory Blank Data

Client Sample ID	0_7291_MB001	**Date Sampled**	n/a
Lab Project ID	P1776	**Analysis File**	091107P2S#5

Client Project	Permit Renewal	Lab Sample ID	MB1_7291_DF_SPE	Batch ID	7291
Date Received	n/a	Matrix	Aqueous	ICAL ID	07012007A
Date Extracted	02 Nov 09	Sample Size	1.00 L	VER File	091107P2S#1
Date Analyzed	07 Nov 09	Dilution Factor	1	OPR File	091107P2S#3
Analyst	MC	GC Column	DB5	Blank File	091107P2S#5

Compound	Concentration (ppq)		Flags	Ion Abundance Ratios		Acceptable Retention Time	
	Found	Reporting Limit		Found	QC Limit [1]	Found	QC Limit [2]
2,3,7,8-TCDD	ND	10		-	0.65-0.89	-	0.999-1.002

(1) QC limits for ratio of areas are from Method Table 9.

(2) QC limits for relative retention times are from Method Table 2.

OK
HS
13 Nov 09

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

Page: 1

Work Order #: 93860
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: ANDRIA HANNEGAN
Date Received: 10/15/2009

ANALYSIS REPORT

COMMENT: THE BOD'S FOR SAMPLES 29406, 29407, 29408, 29410, 29411 & 29412 DID NOT MEET CRITERIA FOR EACH OF THE THREE DILUTIONS USED IN SET UP; SAMPLES WERE "CLEANER" THAN THE DILUTIONS SELECTED; RESULTS ARE ESTIMATED

TAG #: 29404 SAMPLE POINT: OUTFALL 012 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	6	mg/l	2	SM 5210	10/16/09	15:31	MS
Total Suspended Solids	152	mg/l	1.00	SM 2540D	10/20/09	13:28	JI
Nitrite + Nitrate	0.581	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	2.10	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	2.68	mg/l	N/A	SM 4500	11/09/09	14:12	AW
Chemical Oxygen Demand	38.6	mg/l	20	SM 5220D	10/26/09	11:00	TA
Total Phosphorus	0.07	mg/l	0.05	SM 4500PBE	10/27/09	14:45	JI

TAG #: 29405 SAMPLE POINT: OUTFALL 014 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	14	mg/l	2	SM 5210	10/16/09	15:33	MS
Total Suspended Solids	486	mg/l	1.00	SM 2540D	10/20/09	13:28	JI
Nitrite + Nitrate	0.798	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: November 10, 2009
VA LAB ID# 00115

Work Order #: 93860
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: ANDRIA HANNEGAN
Date Received: 10/15/2009

ANALYSIS REPORT

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Total Kjeldahl Nitrogen	1.55	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	2.35	mg/l	N/A	SM 4500	11/09/09	14:12	AW
Chemical Oxygen Demand	227	mg/l	20	SM 5220D	10/26/09	11:00	TA
Total Phosphorus	0.17	mg/l	0.05	SM 4500PBE	10/27/09	14:45	JI

TAG #: 29406 SAMPLE POINT: OUTFALL 010 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	<6	mg/l	2	SM 5210	10/16/09	15:35	MS
Total Suspended Solids	124	mg/l	1.00	SM 2540D	10/20/09	13:28	JI
Nitrite + Nitrate	0.721	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	1.55	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	2.27	mg/l	N/A	SM 4500	11/09/09	14:12	AW
Chemical Oxygen Demand	47.6	mg/l	20	SM 5220D	10/26/09	11:00	TA
Total Phosphorus	0.07	mg/l	0.05	SM 4500PBE	10/27/09	14:45	JI

TAG #: 29407 SAMPLE POINT: OUTFALL 015 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	<6	mg/l	2	SM 5210	10/16/09	15:37	MS

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: November 10, 2009
VA LAB ID# 00115

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Work Order #: 93860
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: ANDRIA HANNEGAN
Date Received: 10/15/2009

ANALYSIS REPORT

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Total Suspended Solids	25.9	mg/l	1.00	SM 2540D	10/20/09	12:07	JI
Nitrite + Nitrate	0.615	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	1.33	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	1.95	mg/l	N/A	SM 4500	11/09/09	14:12	AW
Chemical Oxygen Demand	20.7	mg/l	20	SM 5220D	10/26/09	11:00	TA
Total Phosphorus	0.14	mg/l	0.05	SM 4500PBE	10/27/09	14:45	JI

TAG #: 29408 SAMPLE POINT: OUTFALL 022 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	<6	mg/l	2	SM 5210	10/16/09	15:39	MS
Total Suspended Solids	48.7	mg/l	1.00	SM 2540D	10/20/09	12:06	JI
Nitrite + Nitrate	<0.0500	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	0.77	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	0.77	mg/l	N/A	SM 4500	11/09/09	14:13	AW
Chemical Oxygen Demand	29.6	mg/l	20	SM 5220D	11/03/09	09:00	TA
Total Phosphorus	0.18	mg/l	0.05	SM 4500PBE	10/29/09	13:30	JI

TAG #: 29409 SAMPLE POINT: OUTFALL 018 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	6	mg/l	2	SM 5210	10/16/09	15:41	MS

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: November 10, 2009
VA LAB ID# 00115

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Work Order #: 93860
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: ANDRIA HANNEGAN
Date Received: 10/15/2009

ANALYSIS REPORT

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Total Suspended Solids	278	mg/l	1.00	SM 2540D	10/20/09	12:05	JI
Nitrite + Nitrate	0.817	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	1.60	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	2.42	mg/l	N/A	SM 4500	11/09/09	14:13	AW
Chemical Oxygen Demand	88.8	mg/l	20	SM 5220D	11/03/09	09:00	TA
Total Phosphorus	0.17	mg/l	0.05	SM 4500PBE	10/29/09	13:30	JI

TAG #: 29410 SAMPLE POINT: OUTFALL 028 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	<6	mg/l	2	SM 5210	10/16/09	15:44	MS
Total Suspended Solids	41.2	mg/l	1.00	SM 2540D	10/20/09	11:55	JI
Nitrite + Nitrate	<0.0500	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	1.33	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	1.33	mg/l	N/A	SM 4500	11/09/09	14:13	AW
Chemical Oxygen Demand	36.2	mg/l	20	SM 5220D	11/03/09	09:30	TA
Total Phosphorus	<0.05	mg/l	0.05	SM 4500PBE	10/29/09	13:30	JI

TAG #: 29411 SAMPLE POINT: OUTFALL 026 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	<6	mg/l	2	SM 5210	10/16/09	15:46	MS

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: November 10, 2009
VA LAB ID# 00115

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

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Work Order #: 93860
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: ANDRIA HANNEGAN
Date Received: 10/15/2009

ANALYSIS REPORT

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Total Suspended Solids	5.70	mg/l	1.00	SM 2540D	10/20/09	11:54	JI
Nitrite + Nitrate	<0.0500	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	1.05	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	1.05	mg/l	N/A	SM 4500	11/09/09	14:13	AW
Chemical Oxygen Demand	31.8	mg/l	20	SM 5220D	11/03/09	09:00	TA
Total Phosphorus	<0.05	mg/l	0.05	SM 4500PBE	10/29/09	13:30	JI

TAG #: 29412 SAMPLE POINT: OUTFALL 025 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	<6	mg/l	2	SM 5210	10/16/09	15:48	MS
Total Suspended Solids	39.0	mg/l	1.00	SM 2540D	10/20/09	11:53	JI
Nitrite + Nitrate	<0.0500	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	2.41	mg/l	0.75	SM 4500NB	10/26/09	08:30	TA
Total Nitrogen (CALC.)	2.41	mg/l	N/A	SM 4500	11/09/09	14:14	AW
Chemical Oxygen Demand	27.3	mg/l	20	SM 5220D	11/03/09	09:00	TA
Total Phosphorus	0.09	mg/l	0.05	SM 4500PBE	11/03/09	12:15	JI

TAG #: 29413 SAMPLE POINT: OUTFALL 021 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	11	mg/l	2	SM 5210	10/16/09	15:50	MS

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: November 10, 2009
VA LAB ID# 00115

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Work Order #: 93860
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: ANDRIA HANNEGAN
Date Received: 10/15/2009

ANALYSIS REPORT

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Total Suspended Solids	26.7	mg/l	1.00	SM 2540D	10/20/09	11:27	JI
Nitrite + Nitrate	0.0620	mg/l	0.0500	SM 4500NO3F	10/21/09	16:29	DOI
Total Kjeldahl Nitrogen	2.41	mg/l	0.75	SM 4500NB	10/26/09	08:30	TA
Total Nitrogen (CALC.)	2.47	mg/l	N/A	SM 4500	11/09/09	14:14	AW
Chemical Oxygen Demand	58.8	mg/l	20	SM 5220D	11/03/09	09:00	TA
Total Phosphorus	0.14	mg/l	0.05	SM 4500PBE	11/03/09	12:15	JI

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: November 10, 2009
VA LAB ID# 00115

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#** _____

Sampled By: Andria Hannegan (Print Name) Andria Hannegan (Signature)

ESS SAMPLE ID	COLLECTION DATE	TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	ANALYSES: BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.				COMMENTS
29404	10/13/09	1810 to 2105	Outfall 012	1L	P	2		X	WW	none	X									T. Nitrogen is
"	↓	↓	Outfall 012	250 ml	P	1		X	WW	H2SO4		X								the sum of
"	↓	↓	Outfall 012	500 ml	P	1		X	WW	H2SO4			X	X	X	X				NO2/NO3 and
																				TKN.
																				Preservative
																				pH Check:
																				<2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Andria Hannegan	10/15/09	0630					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					101509	0830	Woodward

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: on ice
Received @ 2.8 c
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 938160
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#** _____

Sampled By: Andria Hennegan (Print Name) (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	GIP	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD:TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.				COMMENTS
89405	10/13/09	1410 to 2105	Outfall 014	1L	P	2		X	WW	none	X									T. Nitrogen is
	↓	↓	Outfall 014	250 ml	P	1		X	WW	H2SO4		X								the sum of
	↓	↓	Outfall 014	500 ml	P	1		X	WW	H2SO4			X	X	X	X				NO2/NO3 and
																				TKN.
																				Preservative
																				pH Check:
																				< 2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Andria Hennegan	10/15/09	0830					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					10/15/09	0830	C Woodward

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: on ice
Received @ 2.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93860
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3376
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#** _____

Sampled By: Andria Hannegan (Print Name) Andria Hannegan (Signature)

ESS SAMPLE ID.	COLLECTION DATE	TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.				COMMENTS
29406	10/17/09	1407 to 810	Outfall 010	1L	P	2		X	WW	none	X									T. Nitrogen is
1	↓	↓	Outfall 010	250 ml	P	1		X	WW	H2SO4		X								the sum of
1	↓	↓	Outfall 010	500 ml	P	1		X	WW	H2SO4			X	X	X	X				NO2/NO3 and
																				TKN.
																				Preservative
																				pH Check:
																				<2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Andria Hannegan	10/15/09	0430					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					10/15/09	0830	C Woodward

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: ice
Received @ 2.8 c
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 9386W
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#** _____

Sampled By: Andria Hannegan (Print Name) (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	ANALYSES: BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.				COMMENTS
29407	10/13/09	1615 to 2115	Outfall 015	1L	P	2		X	WW	none	X									T. Nitrogen is
	↓	↓	Outfall 015	250 ml	P	1		X	WW	H2SO4		X								the sum of
			Outfall 015	500 ml	P	1		X	WW	H2SO4			X	X	X	X				NO2/NO3 and
																				TKN.
																				Preservative
																				pH Check:
																				<2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Andria Hannegan	10/15/09	0630					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					10/15/09	0830	A Woodward

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: on ice
Received @ 2.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93860
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

216 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#** _____

Sampled By: Andria Hannegan (Print Name) (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	ANALYSES: BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.				COMMENTS
29408	10/15/09	1420 to 2115	Outfall 022	1L	P	2		X	WW	none	X									T. Nitrogen is
	↓		Outfall 022	250 ml	P	1		X	WW	H2SO4		X								the sum of
			Outfall 022	500 ml	P	1		X	WW	H2SO4			X	X	X	X				NO2/NO3 and
		↓																		TKN.
																				Preservative
																				pH Check:
																				2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	10/15/09	0830					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					10/15/09	0830	

Method of Delivery
☐ UPS ☐ Fed Ex ☑ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: on ice
Received @ 2.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 938160
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company _ W.W Associates
Contact __ Herb White
Address __ 147 Mill Ridge Rd
Address __ Lynchburge, Va. 24502
Phone ___ 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-8660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#**_____

Sampled By: Andria Hannegan (Print Name) (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.				COMMENTS
29409	10/14/09	1435 to 2145	Outfall 018	1L	P	2		X	WW	none	X									T. Nitrogen is
	↓	↓	Outfall 018	250 ml	P	1		X	WW	H2SO4		X								the sum of
	↓	↓	Outfall 018	500 ml	P	1		X	WW	H2SO4			X	X	X	X				NO2/NO3 and
																				TKN.
																				Preservative
																				pH Check:
																				2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Andria Hannegan	10/15/09	0830					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					101509	0830	C Woodward

Method of Delivery
☐ UPS ☐ Fed Ex ☑ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: ONVA
Received @ 2.8 °C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93860
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

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800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#**_____

Sampled By: Andria Hannegan (Print Name) Andria Hannegan (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	ANALYSES: BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.				COMMENTS
29410	10/13/09	1040 2120	Outfall 028	1L	P	2		X	WW	none	X									T. Nitrogen is
1	↓	↓	Outfall 028	250 ml	P	1		X	WW	H2SO4		X								the sum of
1	↓	↓	Outfall 028	500 ml	P	1		X	WW	H2SO4			X	X	X	X				NO2/NO3 and
																				TKN.
																				Preservative
																				pH Check:
																				<2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Andria Hannegan	10/15/09	0830					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					10/15/09	0830	Andria Woodward

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: on ice
Received @ 2.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93860
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburg, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 735	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site Georgia -Pacific Storm Water **P.O.#**

Sampled By: Andria Hannegan (Print Name) (Signature)

ESS SAMPLE ID	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.				COMMENTS
29411	10/14/09	1620 to 2126	Outfall 026	1L	P	2		X	WW	none	X									T. Nitrogen is
	↓	↓	Outfall 026	250 ml	P	1		X	WW	H2SO4		X								the sum of
			Outfall 026	500 ml	P	1		X	WW	H2SO4			X	X	X	X				NO2/NO3 and
																				TKN.
																				Preservative
																				pH Check:
																				<2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	10/15/09	0430					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					101509	0830	

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: on ice
Received @ 2.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by ____
Extra charges will apply for Rush TAT.

W.O.# 938160
W.O.# ____

Amt Paid $____
Check # ____

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

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540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ Georgia -Pacific Storm Water **P.O.#** _____

Sampled By: Andria Hannegan (Print Name) (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	ANALYSES: BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.				COMMENTS
29412	10/19/09	KM to 2130	Outfall 025	1L	P	2		X	WW	none	X									T. Nitrogen is
1	↓	↓	Outfall 025	250 ml	P	1		X	WW	H2SO4		X								the sum of
1	↓	↓	Outfall 025	500 ml	P	1		X	WW	H2SO4			X	X	X	X				NO2/NO3 and
																				TKN.
																				Preservative
																				pH Check:
																				<2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
[signature]	10/19/09	0830					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					101509	0830	[signature]

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: On Ice
Received @ 2.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93860
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

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800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#**_____

Sampled By: Andria Hannegan (Print Name) (Signature)

ESS SAMPLE ID	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.				COMMENTS
29413	10/14/09	1122 to 1142	Outfall 021	1L	P	2		X	WW	none	X									T. Nitrogen is
	↓	↓	Outfall 021	250 ml	P	1		X	WW	H2SO4		X								the sum of
			Outfall 021	500 ml	P	1		X	WW	H2SO4			X	X	X	X				NO2/NO3 and
																				TKN.
																				Preservative
																				pH Check:
																				<2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
[signature]	10/15/09	0830					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					101509	0830	[signature]

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: nice
Received @ 2.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93860
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

Page: 1

Work Order #: 93855
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: CLIENT
Date Received: 10/15/2009

ANALYSIS REPORT

COMMENT: THE BOD'S FOR SAMPLES 29354, 29356, 29357, 29358 & 29359 DID NOT MEET CRITERIA FOR EACH OF THE THREE DILUTIONS USED IN SET UP; SAMPLES WERE "CLEANER" THAN THE DILUTIONS SELECTED; RESULTS ARE ESTIMATED

TAG #: 29351 SAMPLE POINT: OUTFALL 021 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	11	mg/l	2	SM 5210	10/15/09	15:26	MS
Total Suspended Solids	23.8	mg/l	1.00	SM 2540D	10/20/09	14:57	JI
Nitrite + Nitrate	0.0560	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	0.83	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	0.89	mg/l	N/A	SM 4500	11/09/09	14:28	AW
Chemical Oxygen Demand	56.4	mg/l	20	SM 5220D	10/26/09	11:00	TA
Total Phosphorus	0.07	mg/l	0.05	SM 4500PBE	10/27/09	14:45	JI
Hexane Extractable Material	<5.00	mg/l	5.00	EPA 1664A	10/20/09	09:55	NT

TAG #: 29352 SAMPLE POINT: OUTFALL 010 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	7	mg/l	2	SM 5210	10/15/09	15:28	MS
Total Suspended Solids	199	mg/l	1.00	SM 2540D	10/20/09	14:57	JI

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: November 10, 2009
VA LAB ID# 00115

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

Work Order #: 93855
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: CLIENT
Date Received: 10/15/2009

ANALYSIS REPORT

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Nitrite + Nitrate	0.847	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	1.60	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	2.45	mg/l	N/A	SM 4500	11/09/09	14:28	AW
Chemical Oxygen Demand	86.3	mg/l	20	SM 5220D	10/26/09	11:30	TA
Total Phosphorus	0.10	mg/l	0.05	SM 4500PBE	10/29/09	13:30	JI
Hexane Extractable Material	<5.00	mg/l	5.00	EPA 1664A	10/21/09	15:55	NT

TAG #: 29353 SAMPLE POINT: OUTFALL 014 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	21	mg/l	2	SM 5210	10/15/09	15:30	MS
Total Suspended Solids	360	mg/l	1.00	SM 2540D	10/16/09	17:15	JI
Nitrite + Nitrate	1.04	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	2.16	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	3.20	mg/l	N/A	SM 4500	11/09/09	14:29	AW
Chemical Oxygen Demand	292	mg/l	20	SM 5220D	10/26/09	11:00	TA
Total Phosphorus	0.23	mg/l	0.05	SM 4500PBE	10/29/09	13:30	JI
Hexane Extractable Material	7.90	mg/l	5.00	EPA 1664A	10/21/09	15:55	NT

TAG #: 29354 SAMPLE POINT: OUTFALL 028 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	<7	mg/l	2	SM 5210	10/15/09	15:33	MS

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: November 10, 2009
VA LAB ID# 00115

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

Page: 3

Work Order #: 93855
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: CLIENT
Date Received: 10/15/2009

ANALYSIS REPORT

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Total Suspended Solids	31.5	mg/l	1.00	SM 2540D	10/16/09	17:16	JI
Nitrite + Nitrate	<0.0500	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	1.60	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	1.60	mg/l	N/A	SM 4500	11/09/09	14:29	AW
Chemical Oxygen Demand	<20	mg/l	20	SM 5220D	10/26/09	11:00	TA
Total Phosphorus	<0.05	mg/l	0.05	SM 4500PBE	10/29/09	13:30	JI
Hexane Extractable Material	<5.00	mg/l	5.00	EPA 1664A	10/21/09	15:55	NT

TAG #: 29355 SAMPLE POINT: OUTFALL 012 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	7	mg/l	2	SM 5210	10/15/09	15:35	MS
Total Suspended Solids	397	mg/l	1.00	SM 2540D	10/20/09	14:57	JI
Nitrite + Nitrate	1.03	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	2.65	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	3.68	mg/l	N/A	SM 4500	11/09/09	14:29	AW
Chemical Oxygen Demand	87.8	mg/l	20	SM 5220D	10/26/09	11:00	TA
Total Phosphorus	0.12	mg/l	0.05	SM 4500PBE	10/29/09	13:30	JI
Hexane Extractable Material	<5.00	mg/l	5.00	EPA 1664A	10/21/09	15:55	NT

TAG #: 29356 SAMPLE POINT: OUTFALL 015 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	<7	mg/l	2	SM 5210	10/15/09	15:39	MS

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: November 10, 2009
VA LAB ID# 00115

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

Work Order #: 93855
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: CLIENT
Date Received: 10/15/2009

ANALYSIS REPORT

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Total Suspended Solids	74.7	mg/l	1.00	SM 2540D	10/16/09	17:16	JI
Nitrite + Nitrate	0.812	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	4.31	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	5.12	mg/l	N/A	SM 4500	11/09/09	14:29	AW
Chemical Oxygen Demand	85.5	mg/l	20	SM 5220D	11/03/09	09:00	TA
Total Phosphorus	0.22	mg/l	0.05	SM 4500PBE	11/03/09	12:15	TA
Hexane Extractable Material	<5.00	mg/l	5.00	EPA 1664A	10/21/09	15:55	NT

TAG #: 29357 SAMPLE POINT: OUTFALL 025 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	<7	mg/l	2	SM 5210	10/15/09	15:41	MS
Total Suspended Solids	35.6	mg/l	1.00	SM 2540D	10/16/09	17:21	JI
Nitrite + Nitrate	<0.0500	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	2.65	mg/l	0.75	SM 4500NB	10/18/09	08:30	TA
Total Nitrogen (CALC.)	2.65	mg/l	N/A	SM 4500	11/09/09	14:29	AW
Chemical Oxygen Demand	27.3	mg/l	20	SM 5220D	11/03/09	09:00	TA
Total Phosphorus	0.08	mg/l	0.05	SM 4500PBE	11/03/09	12:15	JI
Hexane Extractable Material	<5.00	mg/l	5.00	EPA 1664A	10/21/09	15:55	NT

TAG #: 29358 SAMPLE POINT: OUTFALL 022 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	<7	mg/l	2	SM 5210	10/15/09	15:43	MS

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: November 10, 2009
VA LAB ID# 00115

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

Work Order #: 93855
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: CLIENT
Date Received: 10/15/2009

ANALYSIS REPORT

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Total Suspended Solids	59.4	mg/l	1.00	SM 2540D	10/16/09	17:30	JI
Nitrite + Nitrate	<0.0500	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	1.60	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	1.60	mg/l	N/A	SM 4500	11/09/09	14:30	AW
Chemical Oxygen Demand	45.5	mg/l	20	SM 5220D	11/03/09	09:00	TA
Total Phosphorus	0.22	mg/l	0.05	SM 4500PBE	11/03/09	12:15	JI
Hexane Extractable Material	<5.00	mg/l	5.00	EPA 1664A	10/21/09	15:55	NT

TAG #: 29359 SAMPLE POINT: OUTFALL 026 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	<6	mg/l	2	SM 5210	10/16/09	15:27	MS
Total Suspended Solids	14.0	mg/l	1.00	SM 2540D	10/16/09	17:30	JI
Nitrite + Nitrate	<0.0500	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	1.60	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	1.60	mg/l	N/A	SM 4500	11/09/09	14:30	AW
Chemical Oxygen Demand	29.6	mg/l	20	SM 5220D	11/03/09	09:00	TA
Total Phosphorus	0.05	mg/l	0.05	SM 4500PBE	11/03/09	12:15	JI
Hexane Extractable Material	<5.00	mg/l	5.00	EPA 1664A	10/21/09	15:55	NT

TAG #: 29360 SAMPLE POINT: OUTFALL 018 SAMPLE DATE: 10/14/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	9	mg/l	2	SM 5210	10/16/09	15:29	MS

Revieved by: Angie Woodward
ESS LAB SERVICES

Report Date: November 10, 2009
VA LAB ID# 00115

Page: 6

Work Order #: 93855
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: CLIENT
Date Received: 10/15/2009

ANALYSIS REPORT

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Total Suspended Solids	705	mg/l	1.00	SM 2540D	10/20/09	14:36	JI
Nitrite + Nitrate	0.763	mg/l	0.0500	SM 4500NO3F	10/21/09	16:35	DOI
Total Kjeldahl Nitrogen	4.87	mg/l	0.75	SM 4500NB	10/19/09	08:30	TA
Total Nitrogen (CALC.)	5.63	mg/l	N/A	SM 4500	11/09/09	14:30	AW
Chemical Oxygen Demand	175	mg/l	20	SM 5220D	11/03/09	09:00	TA
Total Phosphorus	0.33	mg/l	0.05	SM 4500PBE	11/03/09	12:15	JI
Hexane Extractable Material	<5.00	mg/l	5.00	EPA 1664A	10/21/09	15:55	NT

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: November 10, 2009
VA LAB ID# 00115

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#** _____

Sampled By: Michael W. Strader, Jr (Print Name) _____ (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.	Oil & Grease			COMMENTS
89351	10/14/09	1722	Outfall 021	1L	P	2	X		WW	none	X									T. Nitrogen is
			Outfall 021	250 ml	P	1	X		WW	H2SO4		X								the sum of
			Outfall 021	500 ml	P	1	X		WW	H2SO4			X	X	X	X				NO2/NO3 and
			Outfall 021	1 L	G	1	X		WW	H2SO4							X			TKN.
																				Preservative
																				pH Check:
																				<2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
[signature]	10/14/09	1730	[signature]	[signature]	10/15/09		
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					10/15/09	0930	C Woodward

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: on ice
Received @ 3.8 c
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93855
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

pH= 7.39 @ 12.3c

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ Georgia -Pacific Storm Water P.O.#_____

Sampled By: Robert Justin Tomlin (Print Name) _____ (Signature)

ESS SAMPLE ID	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD:TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.	Oil & Grease			COMMENTS
29352	10/14/09	1807	Outfall 010	1L	P	2	X		WW	none	X									T. Nitrogen is
			Outfall 010	250 ml	P	1	X		WW	H2SO4		X								the sum of
			Outfall 010	500 ml	P	1	X		WW	H2SO4			X	X	X	X				NO2/NO3 and
			Outfall 010	1 L	G	1	X		WW	H2SO4							X			TKN.
																				Preservative
																				pH Check:
																				CZ

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	10/14/09	1515					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					101509	0930	

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: once
Received @ 3.8 c
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93856 MO
W.O.# 93855

Amt Paid $_____
Check # _____

pH = 6.48 @ 14.7c

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company _ W.W Associates
Contact __ Herb White
Address _ 147 Mill Ridge Rd
Address _ Lynchburge, Va. 24502
Phone ___ 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

216 North Main St.	500 Stone St.	8321 Laishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ Georgia -Pacific Storm Water P.O.#_____

Sampled By: JOHN M. FOLTZ (Print Name) (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	ANALYSES BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.	Oil & Grease			COMMENTS
29353	10/14/09	1610	Outfall 014	1L	P	2	X		WW	none	X									T. Nitrogen is
			Outfall 014	250 ml	P	1	X		WW	H2SO4		X								the sum of
			Outfall 014	500 ml	P	1	X		WW	H2SO4			X	X	X	X				NO2/NO3 and
			Outfall 014	1 L	G	1	X		WW	H2SO4							X			TKN.
																				Preservative
																				pH Check:
																				LT

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	10/14/09	1820					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					101509	0930	

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: Ice
Received @ 3.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93857 ~~150~~
W.O.# 93855

Amt Paid $_____
Check # _____

pH = 6.83 @ 14.5 C

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
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800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ Georgia -Pacific Storm Water **P.O.#** _____

Sampled By: Shawn Wellby (Print Name) William S. Willby (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	CONTAINERS G/P	CONTAINERS #	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.	Oil & Grease			COMMENTS
29354	10/14/09	1410	Outfall 028	1L	P	2	X		WW	none	X									T. Nitrogen is
			Outfall 028	250 ml	P	1	X		WW	H2SO4		X								the sum of
			Outfall 028	500 ml	P	1	X		WW	H2SO4			X	X	X	X				NO2/NO3 and
			Outfall 028	1 L	G	1	X		WW	H2SO4							X			TKN.
																				Preservative
																				pH Check:
																				6.2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
William S. Willby	10/14/09	1615					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					101509	0930	A Woodward

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: on ice
Received @ 3.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93855
W.O.# _____

Amt Paid $_____
Check # _____

pH=6.72@ 14.3°C

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
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800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#** _____

Sampled By: Robert Justin Tomlin _____
(Print Name) (Signature)

ESS SAMPLE ID.	COLLECTION DATE	TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.	Oil & Grease			COMMENTS
29355	10/14/09	1312	Outfall 012	1L	P	2	X		WW	none	X									T. Nitrogen is
			Outfall 012	250 ml	P	1	X		WW	H2SO4		X								the sum of
			Outfall 012	500 ml	P	1	X		WW	H2SO4			X	X	X	X				NO2/NO3 and
			Outfall 012	1 L	G	1	X		WW	H2SO4							X			TKN.
																				Preservative
																				pH Check:
																				<2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	10/14/09	1615					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					10/15/09	0930	

Method of Delivery
☐ UPS ☐ Fed Ex ☐ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: On ice
Received @ 3.8 c
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93855
W.O.# _____

Amt Paid $_____
Check # _____

pH = 6.53 @ 14.3

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company _ W.W Associates
Contact __ Herb White
Address __ 147 Mill Ridge Rd
Address __ Lynchburge, Va. 24502
Phone ___ 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

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540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#**_____

Sampled By: Michael W. Strader, Sr. _____
(Print Name) (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.	Oil & Grease			COMMENTS
29356	10/14/09	1615	Outfall 015	1L	P	2	X		WW	none	X									T. Nitrogen is
			Outfall 015	250 ml	P	1	X		WW	H2SO4		X								the sum of
			Outfall 015	500 ml	P	1	X		WW	H2SO4			X	X	X	X				NO2/NO3 and
			Outfall 015	1 L	G	1	X		WW	H2SO4							X			TKN.
																				Preservative
																				pH Check:
																				c2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	10/14/09	1520					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					10/15/09	0930	

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: on ice
Received @ 3.8 c
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93855
W.O.# _____

Amt Paid $_____
Check # _____

pH = 6.51 @ 12.5°C

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site Georgia -Pacific Storm Water **P.O.#**

Sampled By: SHAWN WILLEBY (Print Name) William S. Willey (Signature)

ESS SAMPLE ID.	COLLECTION DATE	TIME	SAMPLE LOCATION	CONTAINERS SIZE	C/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.	Oil & Grease			COMMENTS
29357	10/14/09	817	Outfall 025	1L	P	2	X		WW	none	X									T. Nitrogen is
			Outfall 025	250 ml	P	1	X		WW	H2SO4		X								the sum of
			Outfall 025	500 ml	P	1	X		WW	H2SO4			X	X	X	X				NO2/NO3 and
			Outfall 025	1 L	G	1	X		WW	H2SO4							X			TKN.
																				Preservative
																				pH Check:
																				<2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
William S. Willey	10/14/09	1820					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					101509	0930	

Method of Delivery: ☐ UPS ☐ Fed Ex ☑ Hand Delivery ☐ UPS Overnight ☐ Post Office

Remarks: on ice. Received @ 3.8 C ☐ Under 2 hours

TAT: Normal ____ Rush ____ Need Results by ____ Extra charges will apply for Rush TAT.

W.O.# 93855 W.O.# ____

Amt Paid $____ Check # ____

pH= 7.10 @ 13.6°C

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3376
540-825-6660	Fax 540-586-6530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#**_____

Sampled By: JOHN M. FOLTZ (Print Name) (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.	Oil & Grease			COMMENTS
29358	10/14/09	1320	Outfall 022	1L	P	2	X		WW	none	X									T. Nitrogen is
			Outfall 022	250 ml	P	1	X		WW	H2SO4		X								the sum of
			Outfall 022	500 ml	P	1	X		WW	H2SO4			X	X	X	X				NO2/NO3 and
			Outfall 022	1 L	G	1	X		WW	H2SO4							X			TKN.
																				Preservative
																				pH Check:
																				LT

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	10/14/09	1430					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					10/15/09	0930	

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: on ice
Received @ 3.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93855
W.O.# _____

Amt Paid $_____
Check # _____

pH=6.93@13.0°C

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 738	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#** _____

Sampled By: Michael W. Strader, Jr. _____
(Print Name) (Signature)

ESS SAMPLE ID	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.	Oil & Grease			COMMENTS
29359	10/14/09	1630	Outfall 026	1L	P	2	X		WW	none	X									T. Nitrogen is
			Outfall 026	250 ml	P	1	X		WW	H2SO4		X								the sum of
			Outfall 026	500 ml	P	1	X		WW	H2SO4			X	X	X	X				NO2/NO3 and
			Outfall 026	1 L	G	1	X		WW	H2SO4							X			TKN.
																				Preservative
																				pH Check:
																				<2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	10/14/09	1440					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					10/15/09	0930	

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: on ice
Received @ 3.8 c
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93855
W.O.# _____

Amt Paid $_____
Check # _____

pH= 6.88 @ 14.4°c

Revised 11/04/04

SAMPLE CHAIN OF CUSTODY RECORD

Company _ W.W Associates
Contact __ Herb White
Address __ 147 Mill Ridge Rd
Address __ Lynchburge, Va. 24502
Phone ___ 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#**_____

Sampled By: Robert Justin Tumlin
(Print Name) (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.	Oil & Grease			COMMENTS
29360	10/14/09	1535	Outfall 018	1L	P	2	X		WW	none	X									T. Nitrogen is
			Outfall 018	250 ml	P	1	X		WW	H2SO4		X								the sum of
			Outfall 018	500 ml	P	1	X		WW	H2SO4			X	X	X	X				NO2/NO3 and
			Outfall 018	1 L	G	1	X		WW	H2SO4							X			TKN.
																				Preservative
																				pH Check:
																				< 2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	10/14/09	1640					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					101509	0933	

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: on ice
Received @ 3.8 c
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 93855
W.O.# _____

Amt Paid $_____
Check # _____

pH = 6.35 @ 13.5 c

Revised 11/04/04

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

Work Order #: 94706
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA PACIFIC STORMWTR
Collected by: CLIENT
Date Received: 11/19/2009

ANALYSIS REPORT

TAG #:	SAMPLE POINT:	SAMPLE DATE:
30664	OUTFALL 017	11/18/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	6	mg/l	2	SM 5210	11/19/09	15:55	MS
Total Suspended Solids	399	mg/l	1.00	SM 2540D	11/20/09	09:58	BW
itrite + Nitrate	0.714	mg/l	0.0500	SM 4500NO3F	11/25/09	08:25	DOI
Total Kjeldahl Nitrogen	1.67	mg/l	0.75	SM 4500NB	11/23/09	08:30	TA
Total Nitrogen (CALC.)	2.38	mg/l	N/A	SM 4500	12/02/09	08:45	AW
Chemical Oxygen Demand	112	mg/l	20	SM 5220D	11/25/09	09:00	TA
Total Phosphorus	0.18	mg/l	0.05	SM 4500PBE	11/25/09	12:00	JI

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: December 02, 2009
VA LAB ID# 00115

SAMPLE CHAIN OF CUSTODY RECORD

Company _ W.W Associates
Contact __ Herb White
Address __ 147 Mill Ridge Rd
Address __ Lynchburge, Va. 24502
Phone ___ 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St. | Post Office Box 520 | Culpeper, VA 22701 | 800-541-2116 | 540-825-6660
500 Stone St. | Post Office Box 736 | Bedford, VA 24523 | 540-586-5413 | Fax 540-586-5530
8321 Leishear Road | Laurel, MD 20723 | 301-617-9582 | Fax 301-617-3426
3917 Westpoint Blvd. | Suite E | Winston-Salem, NC 27103 | 910-659-3378 | Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#**_____

Sampled By: JOHN M. FOLTZ (Print Name) John M Foltz (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	ANALYSES: BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.				COMMENTS
30664	11-18-09	2130 & 0015	Outfall 017	1L	P	2		X	WW	none	X									T. Nitrogen is
	↓	↓	Outfall 017	250 ml	P	1		X	WW	H2SO4		X								the sum of
			Outfall 017	500 ml	P	1		X	WW	H2SO4			X	X	X	X				NO2/NO3 and
																				TKN.
																				Preservative
																				pH Check:

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
John M Foltz	11/19/09	910					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					11/19/09	1123	Melville D'Mello

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: ONE
Received @ 11.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 94706
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Work Order #: 94705
Contract #:
Customer #: 3456
Customer PO #:

Job Location: GEORGIA-PACIFIC STORMWTR
Collected by: CLIENT
Date Received: 11/19/2009

ANALYSIS REPORT

TAG #:	SAMPLE POINT:	SAMPLE DATE:
30663	OUTFALL 017	11/18/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	7	mg/l	2	SM 5210	11/19/09	15:51	MS
Total Suspended Solids	405	mg/l	1.00	SM 2540D	11/20/09	09:57	BW
Nitrite + Nitrate	0.657	mg/l	0.0500	SM 4500NO3F	11/25/09	08:25	DOI
Total Kjeldahl Nitrogen	2.79	mg/l	0.75	SM 4500NB	11/23/09	08:30	TA
Total Nitrogen (CALC.)	3.45	mg/l	N/A	SM 4500	12/02/09	08:46	AW
Chemical Oxygen Demand	154	mg/l	20	SM 5220D	11/20/09	09:30	TA
Total Phosphorus	0.19	mg/l	0.05	SM 4500PBE	11/25/09	12:00	JI
Hexane Extractable Material	<5.00	mg/l	5.00	EPA 1664A	11/25/09	15:03	NT

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: December 02, 2009
VA LAB ID# 00115

RECEIVED
DEC 07 2009
WW ASSOCIATES

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-6660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ **Georgia -Pacific Storm Water** **P.O.#** _____

Sampled By: JOHN M. FOLTZ (Print Name) (Signature)

ESS SAMPLE ID.	COLLECTION DATE	TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.	Oil & Grease			COMMENTS
30103	11-18-09	2130	Outfall 017	1L	P	2	X		WW	none	X									T. Nitrogen is
			Outfall 017	250 ml	P	1	X		WW	H2SO4		X								the sum of
			Outfall 017	500 ml	P	1	X		WW	H2SO4			X	X	X	X				NO2/NO3 and
			Outfall 017	1 L	G	1	X		WW	H2SO4							X			TKN.
																				Preservative
																				pH Check:

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	11/19/09	910					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received for Laboratory by:**
					11/19/09	1123	Melville DiMo

Method of Delivery
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: OA ICE
Received @ 1.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 94705
W.O.# _____

Amt Paid $_____
Check # _____

pH = 7.07 @ 13.7°C

Revised 11/04/04

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

Work Order #: 94707
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: CLIENT
Date Received: 11/19/2009

ANALYSIS REPORT

TAG #:	SAMPLE POINT:	SAMPLE DATE:
30665	OUTFALL 023	11/18/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	6	mg/l	2	SM 5210	11/19/09	15:57	MS
Total Suspended Solids	82.2	mg/l	1.00	SM 2540D	11/20/09	10:04	BW
Nitrite + Nitrate	0.493	mg/l	0.0500	SM 4500NO3F	11/25/09	08:25	DOI
Total Kjeldahl Nitrogen	1.67	mg/l	0.75	SM 4500NB	11/23/09	08:30	TA
Total Nitrogen (CALC.)	3.83	mg/l	N/A	SM 4500	12/02/09	08:43	AW
Chemical Oxygen Demand	57.0	mg/l	20	SM 5220D	11/25/09	09:00	TA
Total Phosphorus	0.67	mg/l	0.05	SM 4500PBE	11/25/09	12:00	JI

Reviewed by: Angie Woodward
ESS LAB SERVICES

Report Date: December 02, 2009
VA LAB ID# 00115

3432

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact Herb White
Address 147 Mill Ridge Rd
Address Lynchburge, Va. 24502
Phone 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-8660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ Georgia -Pacific Storm Water **P.O.#** _____

Sampled By: JOHN M. FOLTZ (Print Name) John M Foltz (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.				COMMENTS
30665	30665	11-18-09	2235 TO 0025	Outfall 023	1L	P	2		X	WW	none	X									T. Nitrogen is
				Outfall 023	250 ml	P	1		X	WW	H2SO4		X								the sum of
				Outfall 023	500 ml	P	1		X	WW	H2SO4			X	X	X	X				NO2/NO3 and
																					TKN.
																					Preservative
																					pH Check:

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
John M Foltz	11/19/09	910					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					11/23	11/19/09	Julie Haw

Method of Delivery
☐ UPS ☐ Fed Ex ☑ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks: Nice
Received @ 2.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 94707
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

Work Order #: 94708
Contract #:
Customer #: 3456
Customer PO #:

WW ASSOCIATES
P. O. BOX 4119
LYNCHBURG, VA 24502

Job Location: GEORGIA-PACIFIC STORM WTR
Collected by: CLIENT
Date Received: 11/19/2009

ANALYSIS REPORT

TAG #: 30666
SAMPLE POINT: OUTFALL 023
SAMPLE DATE: 11/18/2009

Description	Result	Unit	Rpt. Limit	Method	Anlys Date	Time	Init
Biochemical Oxygen Demand	8	mg/l	2	SM 5210	11/19/09	15:53	MS
Total Suspended Solids	78.9	mg/l	1.00	SM 2540D	11/20/09	10:12	BW
Nitrite + Nitrate	0.875	mg/l	0.0500	SM 4500NO3F	11/25/09	08:25	DOI
Total Kjeldahl Nitrogen	3.91	mg/l	0.75	SM 4500NB	11/23/09	08:30	TA
Total Nitrogen (CALC.)	4.79	mg/l	N/A	SM 4500	12/02/09	08:36	AW
Chemical Oxygen Demand	87.6	mg/l	20	SM 5220D	11/25/09	09:00	TA
Total Phosphorus	0.74	mg/l	0.05	SM 4500PBE	11/25/09	12:00	JI
Hexane Extractable Material	<5.00	mg/l	5.00	EPA 1664A	11/25/09	15:03	NT

Reviewed by: Brie Woodward
ESS LAB SERVICES

Report Date: December 02, 2009
VA LAB ID# 00115

3458

SAMPLE CHAIN OF CUSTODY RECORD

Company W.W Associates
Contact _ Herb White
Address _ 147 Mill Ridge Rd
Address _ Lynchburge, Va. 24502
Phone ___ 434-582-6175

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.	500 Stone St.	8321 Leishear Road	3917 Westpoint Blvd.
Post Office Box 520	Post Office Box 736	Laurel, MD 20723	Suite E
Culpeper, VA 22701	Bedford, VA 24523		Winston-Salem, NC 27103
800-541-2116	540-586-5413	301-617-9582	910-659-3378
540-825-5660	Fax 540-586-5530	Fax 301-617-3426	Fax 910-659-3379

Project Name/Site _____ Georgia -Pacific Storm Water P.O.#_____

Sampled By: JOHN M. FOLTZ (Print Name) John M Foltz (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	BOD;TSS	NO2/NO3	TKN	T. Nitrogen	COD	T. Phosph.	Oil & Grease			COMMENTS
30666	11-18-09	2235	Outfall 023	1L	P	2	X		WW	none	X									T. Nitrogen is
			Outfall 023	250 ml	P	1	X		WW	H2SO4		X								the sum of
			Outfall 023	500 ml	P	1	X		WW	H2SO4			X	X	X	X				NO2/NO3 and
			Outfall 023	1 L	G	1	X		WW	H2SO4							X			TKN.
																				Preservative
																				pH Check:

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
John M Foltz	11/19/09	910					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					11/19/09	1123	Melinda DiMon

Method of Delivery
☐ UPS ☐ Fed Ex ☑ Hand Delivery
☐ UPS Overnight ☐ Post Office

Remarks:
Received @ 2.8 C
☐ Under 2 hours

TAT
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# 94708
W.O.# _____

Amt Paid $_____
Check # _____

Revised 11/04/04

ONICE
pH = 6.90 @ 12.8°C

Geogia Pacific Stormwater Sampling Log
Big Island, Virginia
WWA Project No. 209028.01

Date of Rain Event: 10/14/2009
Time at 0.10" during event: 17:45

WW Engineers Surveyors Planners Associates

		Description of Outfall			Time of Sample and Flow Rate							
Outfall No.	Sample By	Size (in)	Material	Slope (ft/ft)	Grab	Flow Rate (gpm)	1st Comp	Flow Rate (gpm)	2nd Comp.	Flow Rate (gpm)	3rd Comp.	Flow Rate (gpm)
010	JT	12	CMP n = 0.025	0.042	18:07	22	19:15	5	20:22	5	21:05	22
012	JT	24	RCP n = 0.013	0.016	18:12	90	19:25	39	20:19	90	21:10	1.9
014	MF	13	CIP n = 0.013	0.021	18:03	20	19:10	8.2	20:02	13.5	21:02	8.2
015	MS	48	CMP n = 0.025	0.010	18:14	440	19:40	240	20:32	330	21:15	240
017	SW	24	CMP n = 0.025	0.021	-	No flow	-	No flow	-	No flow	-	No flow
018	JT	Inlet			18:30	10	19:45	10	20:25	10	21:18	10
021	MS	6	PVC n = 0.009	0.083	19:22	1.5	20:16	1.5	21:00	1	21:42	1
022	MF	36	CMP n = 0.025	0.057	18:20	10	19:25	10	20:20	10	21:15	10
023	MF	21	RCP n = 0.013	0.021	-	No flow	-	No flow	-	No flow	-	No flow
025	SW	36	RCP n = 0.013	0.042	18:17	8.6	19:30	8.6	20:30	8.6	21:30	15
026	MS	6' W Channel	Rip Rap	V = 0.5 fps	18:30	28	19:55	28	20:48	28	21:26	28
028	SW	36	RCP n = 0.013	0.042	18:10	42	19:20	42	20:20	15	21:20	15

Geogia Pacific Stormwater Sampling Log
Big Island, Virginia
WWA Project No. 209028.01

Date of Rain Event: 11/18/2009
Time at 0.10" during event 2100

WW Engineers Surveyors Planners Associates

		Description of Outfall			Time of Sample and Flow Rate							
Outfall No.	Sample By	Size (in)	Material	Slope (ft/ft)	Grab	Flow Rate (gpm)	1st Comp	Flow Rate (gpm)	2nd Comp.	Flow Rate (gpm)	3rd Comp.	Flow Rate (gpm)
017	JMF	24	CMP n = 0.025	0.021	2130	38	2220	23	2320	101	0015	38
023	JMF	21	RCP n = 0.013	0.021	2235	1.6	2335	23	0025	23		

outfall	parameter	freq.	date	value	total rainfall	hrs. between	total flow	duration	outfall sampled
555	BOD	1	11/24/2008	12 mg/l	.75"	216	.030 mg	3 hr	9
	TSS	1	10/25/2008	22 mg/l	1.6"	168	.064 mg	8 hr	
	pH	1		7.4					
	Cu diss.	4	8/5/2009	<10 ug/l	.2"	120	.004 mg	2 hr	10
	Cu diss.		10/25/2008	11 ug/l	1.6"	168	.064 mg	8 hr	9
	Cu diss.		2/11/2009	<10 ug/l	.25"	312	.005 mg	50 min	7
	Cu diss.		5/3/2009	<10 ug/l	1.6"	288	.064 mg	10 hr	9
	Cu diss.	avg.		10 ug/l					
12	BOD	1	3/13/2009	15 mg/l	1.75"	552	.236 mg	48 hr	
	TSS	1		127 mg/l					
	pH	1		7.5					
	NO3/NO2	1		0.78 mg/l					
14	BOD	1	11/24/2008	32 mg/l	.75"	216	.020 mg	3 hr	
	TSS	1	10/25/2008	50 mg/l	1.6"	168	.042 mg	8 hr	
	pH	1		7.98					
	Cu diss.	4	10/25/2008	33 ug/l	1.6"	168	.042 mg	8 hr	
	Cu diss.		2/11/2009	<10 ug/l	.25"	312	.007 mg	50 min	
	Cu diss.		5/3/2009	16 ug/l	1.6"	288	.042 mg	10 hr	
	Cu diss.		8/5/2009	<10 ug/l	.2"	120	.005 mg	2 hr	
	Cu diss.	avg.		17 ug/l					
15	BOD	1	3/25/2009	21 mg/l	.25"	240	.083 mg	3 hr	
17	BOD	1	10/17/2008	4 mg/l	1.0"	480	.040 mg	5 hr	
	TSS	1		36 mg/l					
	Cu diss.	4	10/17/2008	<10 ug/l	1.0"	480	.04 mg	5 hr	
	Cu diss.		2/11/2009	<10 ug/l	.25"	312	.01 mg	50 min	
	Cu diss.		5/3/2009	<10 ug/l	1.6"	288	.064 mg	10 hr	
	Cu diss.		8/5/2009	<10 ug/l	.2"	120	.008 mg	2 hr	
	Cu diss.	avg.		<10 ug/l					
18	pH	1	11/24/2008	7.8	.75"	216	.037 mg	3 hr	
	TSS	1		75 mg/l					
21	BOD	1	10/17/2008	14 mg/l	1.0"	480	.006 mg	5 hr	
	TSS	1		29 mg/l					
	pH	1		6.93					
	Zn diss.	4	10/17/2008	31 ug/l	1.0"	480	.006 mg	5 hr	
	Zn diss.		2/11/2009	22 ug/l	.25"	312	.002 mg	50 min	
	Zn diss.		5/3/2009	159 ug/l	1.6"	288	.01 mg	10 hr	
	Zn diss.		8/23/2009	43 ug/l	1.2"	288	.007 mg	3 hr	
	Zn diss.	avg.		64 ug/l					
22	TSS	1	3/14/2009	16 mg/l	1.75"	552	.485 mg	48 hr	
	NO3/NO2	1		7.94 mg/l					
	Fe, totrec	1		6.76 mg/l					
23	TSS	1	6/11/2009	12 mg/l	.4"	120	.010 mg	45 min	
	TSS	1	3/14/2009	428 mg/l	1.75"	552	.043 mg	48 hr	
	COD	1		68 mg/l					
	NO3/NO2	1		.99 mg/l					
	Fe, totrec	1		8.38 mg/l					
25	TSS	1	3/14/2009	34 mg/l	1.75"	552	.238 mg	48 hr	
	Fe, totrec	1		1.14 mg/l					

outfall	parameter	freq.	date	value	total rainfall	hrs. between	total flow	duration	outfall sampled
26	TSS	1	3/14/2009	7 mg/l	1.75"	552	.119 mg	48 hr	
	Fe, totrec	1		.36 mg/l					
28	TSS	1	3/14/2009	35 mg/l	1.75"	552	.197 mg	48 hr	
	Fe, totrec	1		17 mg/l					